A Guide to Some Common Plants of the Skeena Area, British Columbia

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MARCH 1982

Sponsored by
Research Branch
Victoria, B.C.

Province of British Columbia
Ministry of Forests

Published by the
Information Services Branch
Ministry of Forests
Province of British Columbia
Victoria, B.C.
V8W 3E7

Canadian Cataloguing in Publication Data

Main entry under title:
A Guide to some common plants of the Skeena area, British Columbia

(Land management handbook, ISSN 0229-1622; no. 4)

ISBN 0-7719-8756-0

1. Botany - British Columbia - Skeena River watershed. 2. Plants - Identification. I. Coupé, R., 1952- . II. British Columbia. Ministry of Forests. Research Branch. III. Series.

QK203.B7G84 581.9711'3 C81-092383-1

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Ministry of Forests Publication H28-81065

Table of Contents

LIST OF KEYS 5
INTRODUCTION 6
ACKNOWLEDGMENTS 8
VASCULAR PLANTS 10
- TREES 10
- SHRUBS AND SMALL TREES 20
- CLUB-MOSSES 54
- HORSETAILS 60
- FERNS 66
- SEDGES, GRASSES AND RUSHES 73
- LILIES 86
- ORCHIDS 95
- COMPOSITES 108
- OTHER HERBACEOUS PLANTS 117
  - Apiaceae, *Carrot Family* 117
  - Araceae, *Arum Family* 120
  - Araliaceae, *Ginseng Family* 120
  - Boraginaceae, *Borage Family* 121
  - Caprifoliaceae, *Honeysuckle Family* 121
  - Caryophyllaceae, *Pink Family* 122
  - Cornaceae, *Dogwood Family* 123
  - Droseraceae, *Sundew Family* 124
  - Fabaceae, *Pea Family* 125
  - Geraniaceae, *Geranium Family* 127
  - Juncaginaceae, *Arrow-grass Family* 128
  - Lamiaceae, *Mint Family* 128
  - Lentibulariaceae, *Bladderwort Family* 129
  - Menyanthaceae, *Buckbean Family* 130
  - Monotropaceae, *Indian-pipe Family* 131
  - Nymphaeaceae, *Water-lily Family* 132
  - Onagraceae, *Evening-primrose Family* 133
  - Orobanchaceae, *Broomrape Family* 134
  - Parnassiaceae, *Grass-of-Parnassus Family* 135
  - Polemoniaceae, *Phlox Family* 135
  - Portulacaceae, *Purslane Family* 136
  - Pyrolaceae, *Wintergreen Family* 137
  - Ranunculaceae, *Buttercup Family* 141
  - Rosaceae, *Rose Family* 147
  - Rubiaceae, *Madder Family* 152
  - Santalaceae, *Sandalwood Family* 153
  - Saxifragaceae, *Saxifrage Family* 154
  - Scheuchzeriaceae, *Scheucheria Family* 158
  - Scrophulariaceae, *Figwort Family* 159
  - Typhaceae, *Cattail Family* 160
  - Urticaceae, *Nettle Family* 160
  - Violaceae, *Violet Family* 161

NON-VASCULAR PLANTS 168
  BRYOPHYTES 169
    Mosses 171
    Liverworts 180
  LICHENS 185
APPENDIX I - COLLECTING AND PRESSING PLANT SPECIMENS 189
GLOSSARY 191
INDEX TO COMMON NAMES 199
INDEX TO LATIN (SCIENTIFIC) NAMES 207

List of Keys

Key to the Native *Picea* Species and Hybrids in B.C. using Cone Characteristics .. 14
Key to the Common Gooseberries and Currants (*Ribes* spp.) 41
Key to the Common *Vaccinium* Species 35
Key to the Common Club-mosses (*Lycopodiaceae*) 54
Key to the Common Horsetails (*Equisetum* spp.) 60
Key to the Sedge, Grass and Rush Families 73
Key to the Common Lily Species 87
Key to the Common Twayblades (*Listera* spp.) 99
Key to the Common Rein orchids (*Platanthera* spp.) 102
Key to the Common Wintergreens (*Pyrolaceae*) 137
Key to the Common Violets (*Viola* spp.) 161

Introduction

Purpose

The prime purpose of this guide is to present a simplified, yet accurate, account of the most common plants including bryophytes and lichens which occur in the Skeena area (See Map). It is intended only as an accompanying guide to the vegetative part of the ecosystem classification being developed in the Skeena area and for those interested in knowing the vegetation in greater detail than what is presented in the proposed Ministry of Forests operational manuals.

Scope and Limitations

This booklet contains over two hundred and fifty plant species which occur frequently in the Skeena area. This is by no means an exhaustive account. There are undoubtedly several hundred other species which have not been included. However, it is not the intent of this booklet to describe every species in the Skeena area, only the common ones. This guide is intended for use by non-professional botanists and foresters.

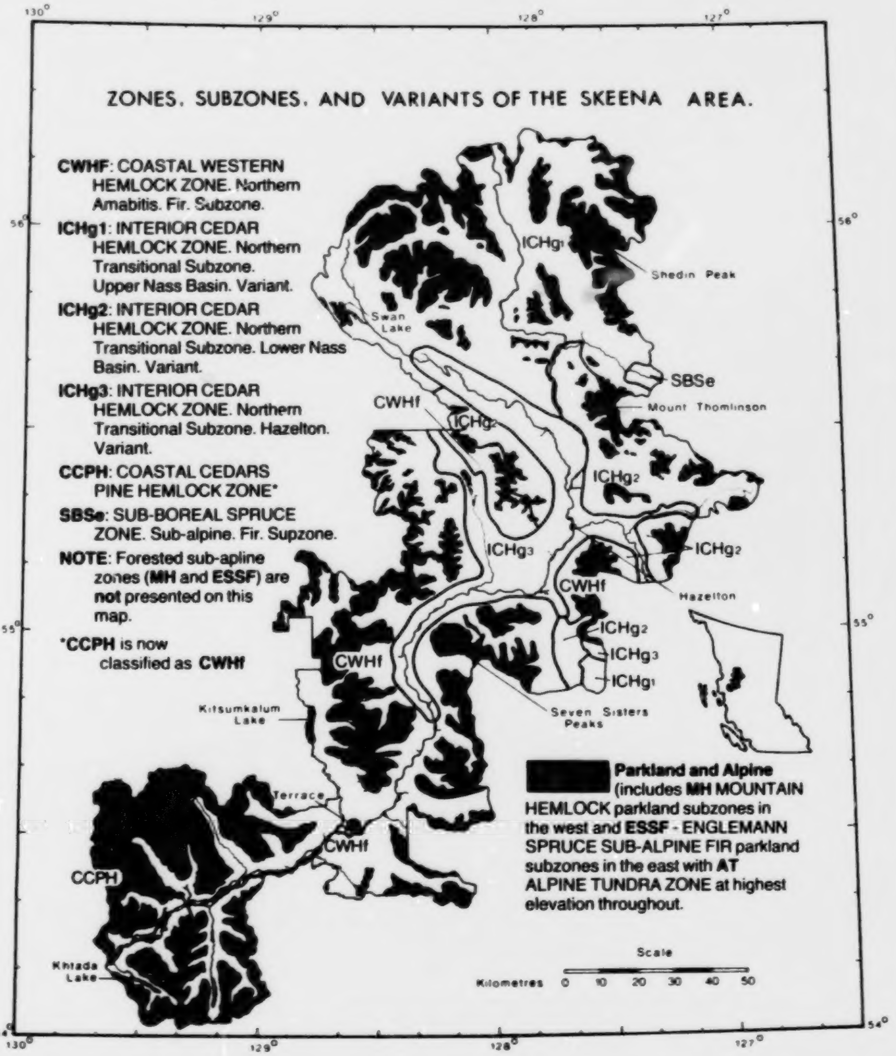
One should bear in mind that there may be within this area species which closely resemble some of the species described in this guide. This is especially true of some mosses, ferns, legumes, and a few other groups. This booklet is not intended as the final word on the identification of any of the species described within but is, as its title implies, a guide or tool to assist those interested in the identification of the more common plants in this area. It is suggested that plants of which the user is uncertain, should be collected and keyed out with the use of more authoritative publications or sent to Research Branch personnel in Smithers for identification. It should also be noted, however, that within the boundary of the Skeena area most of the plant species described and illustrated within are sufficiently distinct to identify with the use of this guide (and a little perserverance).

The plants treated in this guide are presented in order of strata, e.g., trees, shrubs, herbs, bryophytes and lichens. The vascular plants are grouped into several easily recognizable categories: trees, shrubs and small trees, club-mosses, horsetails, ferns, rushes, sedges, grasses, lilies, orchids and composites. The remaining plants are grouped together as herbaceous plants. Within each grouping the plants are alphabetically arranged by family and then by genera and species. Bryophytes are arranged alphabetically while lichen species are arranged on the basis of growth form.

Nomenclature follows that of Taylor and MacBryde (1977) for vascular plants; Crum, Steeve and Anderson (1973) for mosses; Stotler and Crandell-Stotler (1977) for liverworts; and Hale and Culberson (1970) for lichens. For the most part, common names for vascular plants follow those used by Taylor and MacBryde (1977). However, in many instances more familiar local common names for the Skeena area take precedence. Synonyms for Latin names are given in the index.

A glossary is provided to help clarify the meaning of technical terms. The glossary is based mainly on Hitchcock *et. al.* (1969) "Vascular plants of the Pacific Northwest" as well as other sources noted in the acknowledgements.

In the habitat section, abbreviations are used for the zones, subzones and variants of the Skeena area. The meaning for these abbreviations can be found on the map of the Skeena area.


130°
129°
128°
127°
56°
55°
54°
ICHg1
Shedin Peak
Swan Lake
SBSe
Mount Thomlinson
CWHf
ICHg2
ICHg2
ICHg3
ICHg2
CWHf
Hazelton
ICHg2
ICHg3
ICHg1
CWHf
Seven Sisters Peaks
Kitsumkalum Lake
Terrace
CWHf
CCPH
Khtada Lake
Scale
Kilometres 0 10 20 30 40 50

ZONES, SUBZONES, AND VARIANTS OF THE SKEENA AREA.

CWHF: COASTAL WESTERN HEMLOCK ZONE. Northern Amabitis. Fir. Subzone.

ICHg1: INTERIOR CEDAR HEMLOCK ZONE. Northern Transitional Subzone. Upper Nass Basin. Variant.

ICHg2: INTERIOR CEDAR HEMLOCK ZONE. Northern Transitional Subzone. Lower Nass Basin. Variant.

ICHg3: INTERIOR CEDAR HEMLOCK ZONE. Northern Transitional Subzone. Hazelton. Variant.

CCPH: COASTAL CEDARS PINE HEMLOCK ZONE*

SBSe: SUB-BOREAL SPRUCE ZONE. Sub-alpine. Fir. Supzone.

NOTE: Forested sub-apline zones (**MH** and **ESSF**) are **not** presented on this map.

*__CCPH__ is now classified as **CWHf**

▇ **Parkland and Alpine** (includes **MH** MOUNTAIN HEMLOCK parkland subzones in the west and **ESSF** - ENGLEMANN SPRUCE SUB-ALPINE FIR parkland subzones in the east with **AT** ALPINE TUNDRA ZONE at highest elevation throughout.

Acknowledgements

The majority of illustrations in this guide were provided by Peggy Frank and Glynn Bishop, Ministry of Forests. These illustrations were reviewed by Dr. G.W. Douglas. Illustrations for a number of major groups were taken from the following B.C. Provincial Museum publications: Brayshaw 1976 (Betulaceae, Saliacaceae); Schofield 1969 (mosses); Szczawinski 1959 (Orchidaceae, in part), 1962 (Ericaceae, Pyrolaceae); Taylor 1956 (ferns and horsetails), 1973 (Rosaceae), 1974a (Fabaceae) and 1974b (Scrophulariaceae). The coniferous tree illustrations were kindly provided by the Terrestrial Studies Branch, B.C. Ministry of Environment. The lichen photographs were supplied by the Information Services Branch, Ministry of Forests.

The following people reviewed the manuscript and provided many helpful suggestions: Dr. R.L. Taylor, Dr. R. Ogilvie, Dr. T.C. Brayshaw and Mr. R.K. Scagel. Many of the detailed habitat descriptions within this guide were provided by Dr. J. Pojar and Ms. S. Haeussler. This habitat information greatly increases the value of the guide to individuals and agencies working in the Skeena area. The final editing carried out by Gloria Ruyle and others from the Research Branch is greatly appreciated. Ms. Jayne Lacroix and Ms. Anne Wong typed the manuscript.

It must be emphasized that this guide has been abstracted from a number of works which are suggested as more authoritative references:

Brayshaw, T.C. 1976. Catkin Bearing Plants of British Columbia. B.C. Provincial Museum No. 18 Occasional Paper. Queens Printer, Victoria.

Conard, H.S. 1956. How to Know the Mosses and Liverworts. Wm. C. Brown Co., Iowa.

Hale, M.E. 1979. How to Know the Lichens. Wm. C. Brown Co., 2nd edition, Iowa.

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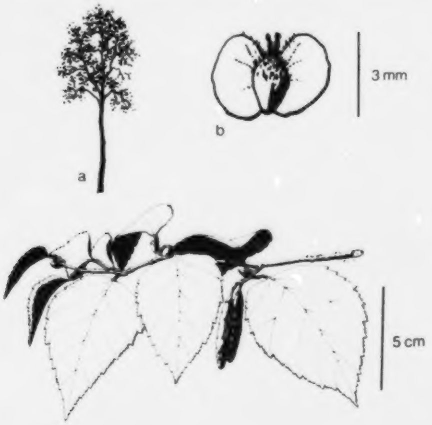
Trees

Betulaceae (Birch family)



Betula papyrifera

(Common paper birch)

TREE (a) up to 30 m tall.

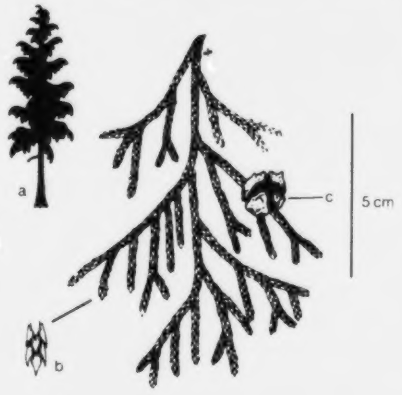
BARK — ***readily to tardily peeling,*** white to copper brown, smooth and marked with brown horizontally elongated lenticels.

LEAVES — narrowly egg-shaped to nearly round, sharp-pointed, serrate, usually 15-20 teeth per side, sometimes very shallowly lobed; upper surface greener than lower surface, smooth to hairy, ***lower surface usually hairy with hairs tufted in axils of larger lateral veins toward base of leaf.***

FRUIT — (b) ***nutlet having wing broader than body.***

HABITAT — grows best on well-drained sandy or silty loams where abundant moisture is available, thrives on burned-over and cut-over areas where it often forms pure stands, later becoming restricted to openings as the forest matures. Found in lower elevation seral stands throughout Skeena area, except in extremely wet coastal regions. Best development in ICHg3.

Cupressaceae (Cypress family)



Chamaecyparis nootkatensis

(Yellow cedar)

TREE (a) 20-40 m tall.

BRANCHES — spreading, drooping, somewhat flattened ***branchlets tending to hang vertically,*** appearing limp.

BARK — scaly when young, not tearing off in long strips; greyish brown.

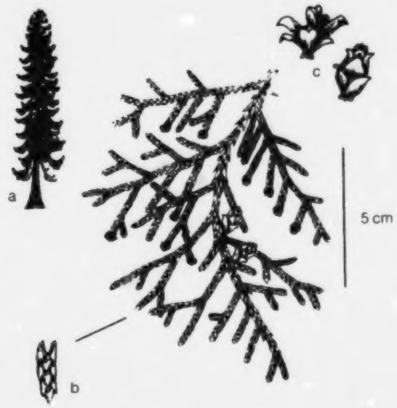
LEAVES — bluish-green, tipped with sharp rigid point, partly overlapping in shingled arrangement (b).

CONES — ***female cones spherical*** (c), covered with a fine waxy powder, terminal, erect on short branchlets, scarcely 10 mm long.

HABITAT — typically humid west coast forests from near sea level to subalpine; also grows poorly in *Sphagnum* bogs. A characteristic species of the CCPH zone in the Skeena area. Occurs in coastal areas of MHd and CWHf.

Trees

Cupressaceae (Cypress family)



Thuja plicata

(Western red cedar)

TREE (a) large, up to 70 m tall.

BRANCHES — tending to spread or droop slightly and then upturn; branchlets spraylike, strongly flattened tending to be ***positioned horizontally***.

BARK — tearing off in long thin strips; reddish brown.

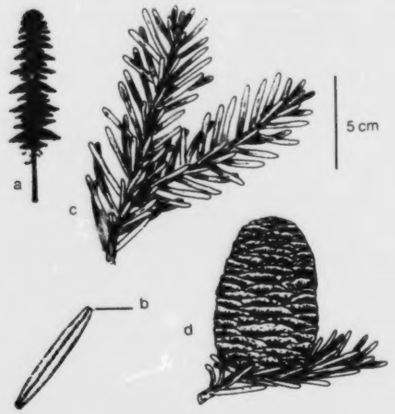
LEAVES — at first lustrous or somewhat yellowish-green, becoming brown and largely deciduous in 3-4 years, partly overlapping in shingled arrangement (b).

CONES — ***female cones egg-shaped*** (c), 8-10 mm long.

HABITAT — grows best in seepage and alluvial sites, may be found in shallow *Sphagnum* bogs or in drier situations especially on richer soils. Occurs in CWHf, ICHg2 & g3, CCPH, and MHd.

Trees

Pinaceae (Pine family)



Abies amabilis

(Pacific silver fir)

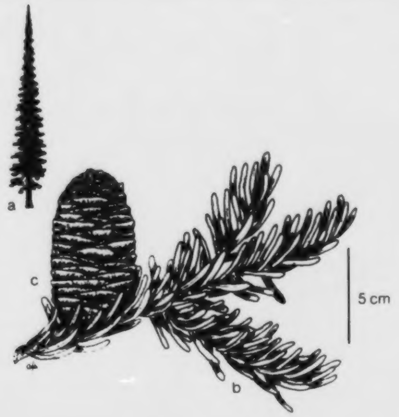
TREE (a) up to 50-70 m tall.

BRANCHES — flattened, spray-like.

LEAVES — ***shiny, dark green above, two silvery bands of stomata below,*** nearly flat; mostly notched (b); needles spreading horizontally or somewhat erect to pressed to upper side of branches and pointing forward (c); needles relatively long and broad on cone bearing branches; ***upper needles strongly appressed mostly parallel to twig due to twisted needle base.***

CONES — erect (d), usually near top of trees.

HABITAT — found mainly in coastal forests on a variety of soils; occasionally in pure stands, usually mixed with other species of conifers. A characteristic species of the CWH zone, however, pockets of *A. amabilis* may occur in the ICH.



Abies lasiocarpa var. *lasiocarpa*

(Subalpine fir)

TREE (a) rarely over 30 m tall, however, in Meziadin area they exceed 60 m height with dbh of 75-100 cm.

BRANCHES — not spray-like.

LEAVES — ***bluish-green, mostly blunt, sometimes notched,*** all tending to turn upwards (b), all having ***stomata on both surfaces,*** leaves stalkless; needles relatively short and narrow on cone-bearing branches only; needle bases not twisted.

CONES — erect (c), usually near top of tree, similar to *Abies amabilis*.

HABITAT — a typical species of the SBS and ESSF zones, grows best on soils with some seepage; may grow in pure stands but is usually mixed with other species of conifers. Common in the subalpine, however, occurs at low elevations in more continental climates.

Trees

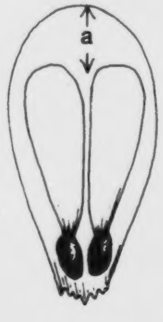
Pinaceae (Pine family)

RANGE OF CONE SCALE MEASUREMENTS FOR *Picea* SPECIES AND THEIR HYBRIDS IN THE PACIFIC NORTHWEST

Provided by Dr. G.W. Douglas, Douglas Ecological Consultants Ltd., Victoria.

Species/hybrid	Mean scale length (mm)	Mean scale width (mm)	Mean scale length/ width ratio	Mean free scale length (mm)	% free scale
P. mariana	8.2-10.6	8.2-10.5	0.95-1.24	2.3-3.5	22-43
P. glauca	11.7-13.1	9.5-11.0	1.09-1.26	1.0-2.0	8-16
P. engelmannii	13.0-17.5	9.7-12.7	1.12-1.60	4.1-6.3	30-40
P. sitchensis	13.3-15.7	7.1- 8.7	1.66-2.11	4.0-5.0	24-34
P. glauca x sitchensis	11.6-15.8	6.9- 9.5	1.41-1.87	2.9-4.2	23-26
P. glauca x engelmannii	12.3-15.3	8.6-11.8	1.16-1.59	1.3-2.7	13-19
P. glauca x engelmannii x sitchensis	11.3-19.9	9.8-12.0	1.28-2.21	1.8-4.4	14-28

P. glauca - short free scales, low free scale percentage
P. sitchensis - long free scale, high free scale percentage, narrow scales
P. engelmannii - long free scale, high free scale percentage



a = length of free scale.

NOTE — Caution must be taken in identifying *Picea* spp. in the Skeena area due to hybridization between species. This chart and following key are included as an aid to species and hybrid identification.

KEY TO THE NATIVE *Picea* SPECIES AND HYBRIDS IN B.C. USING CONE CHARACTERISTICS*

Provided by Dr. G.W. Douglas, Douglas Ecological Consultants Ltd., Victoria.

1a. Cones 1.5-3 cm long, mean scale length less than 10.5 mm .... *Picea mariana*

1b. Cones 2.5-10 cm long, mean scale length greater than 10.5 mm.
  2a. Mean free scale length 1.0-2.7 mm or mean free scale percentage 8-19%.
    3a. Mean scale length 11.7-13.1 mm, mean scale width 9.5-11.0 mm, mean free scale length 1.0-2.0 mm, and mean free scale percentage 9.5-16% .... *P. glauca*

    3b. Measurements differing from those above.
      4a. Mean scale width greater than 8.5 mm, mean scale length/width ratio greater than 1.60 or mean free scale length less than 2.8 mm .... *P. glauca x engelmannii*
      4b. Measurements differing from those above .... *P. glauca x engelmannii x sitchensis*

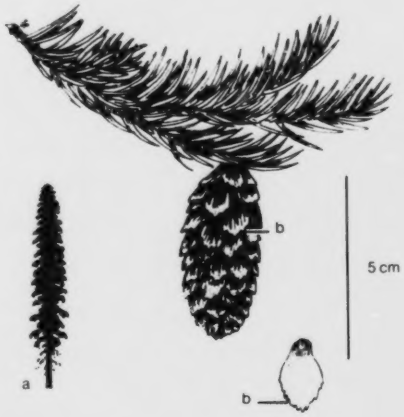
  2b. Mean free scale length 2.9-6.3 mm or mean free scale percentage 14-40%.
    5a. Mean scale width 6.9-9.5 mm and mean scale length/width ratio 1.41-2.11.
      6a. Mean free scale length 4.0-5.0 mm, mean free scale percentage 24-34% and mean scale length/width ratio 1.66-2.11 .... *P. sitchensis*
      6b. Measurements differing from those above .... *P. glauca x sitchensis*

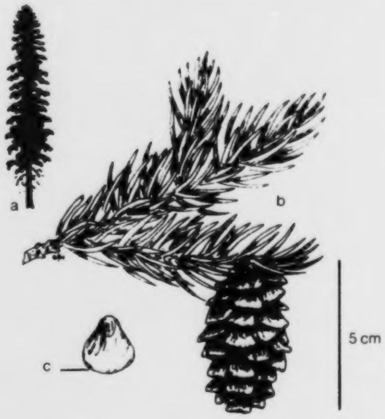
    5b. Mean scale width 9.7-12.7 mm and mean scale length/width ratio 1.12-1.60.
      7a. Mean free scale percentage 30-40% .... *P. engelmannii*
      7b. Mean free scale percentage 14-28% .... *P. glauca x engelmannii x sitchensis*

*Measurements for cone scales should be made on a scale from the middle of each 10 cones from a single tree, then averaged. Measuring many scales is essential. At least five trees from a population should be examined.

Trees

Pinaceae (Pine family)





Picea engelmannii

(Engelmann spruce)

TREE (a) straight, spire-like, up to 50 m tall.

BRANCHES — ***young twigs hairy, occasionally glabrous.***

LEAVES — sharp but not particularly stiff, all on upper side of branch, malodorous, 4-angled, two whitish lines on upper and lower surfaces.

CONES — ***scales blunt to sharp-pointed, finely irregular wavy margined*** (b); cones 4-5 cm long.

HABITAT — characteristically a subalpine species occuring between 1000 and 2000 m, grows best on deep, rich, moist loamy soils; commonly hybridizes with white spruce. In Skeena area this species only occurs in hybrid form.

NOTE — *Picea glauca* x *sitchensis* (*P. x lutzii* (Roche spruce)) this hybrid looks superficially like *P. engelmannii* and has a suspected resistance to white pine weevil (= Sitka spruce weevil) *Pissodes strobi*.

Picea glauca

(White spruce)

TREE (a) stunted to erect, up to 25 m tall.

BRANCHES — ***young twigs smooth and shiny, not hairy.***

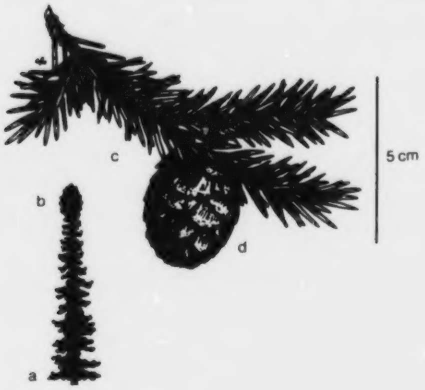
LEAVES — (b) 4-sided, tending to project from all sides of the branches, somewhat sharply pointed, aromatic when crushed.

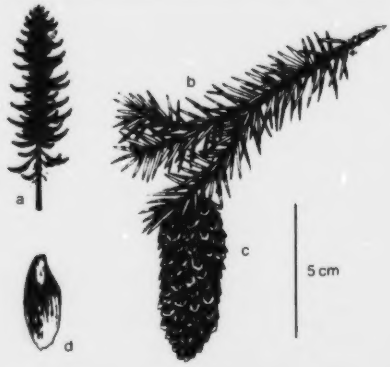
CONES — 2.5 - 3.5 (6) cm long; cone scale elliptical, short free scale, rounded to blunt at tip (c) and stiffer than those of *P. engelmannii* cones.

HABITAT — swamps and river banks to montane slopes, sub-montane and montane elevations; grows best on well-drained, moist, silty soils, commonly hybridizes with Engelmann spruce and hybrids between white and Sitka spruce are characteristic of much of the Skeena area. Additionally white and black spruce hybrids are thought to occur in the Skeena.

Trees

Pinaceae (Pine family)





Picea mariana

(Black spruce)

TREE (a) up to 20 m tall.

BRANCHES — dead or over-mature trees often have dense clusters of branchlets (b) near top; ***young twigs hairy and glandular.***

LEAVES — 4-angled, standing out on all sides (c) or mostly pointed upwards, stomata present on all sides.

CONES — female cones (d) persistent, ***scales irregularly toothed,*** broadly rounded at tip; 1.5-3.0 cm long.

HABITAT — wet meadows; characteristic tree of poorly drained sites. In bogs and upland sites near bogs.

NOTE — Caution must be taken in identifying *Picea* spp. in the Skeena area due to hybridization between species. A chart and key (p 13 , 14 .) are included as an aid to species and hybrid identification.

Picea sitchensis

(Sitka spruce)

TREE (a) up to 60-70 m tall.

BRANCHES — ***young twigs not hairy.***

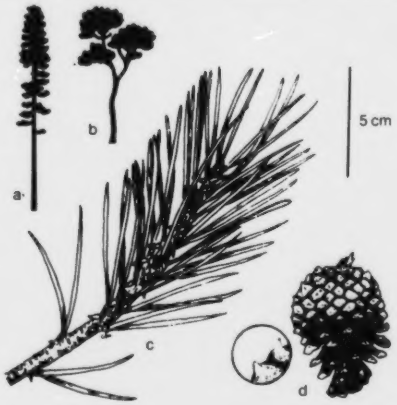
LEAVES — sharp, tending to project from all sides of branches (b) flattened; upper and lower surfaces with 2 white bands of stomata.

CONES — female cones (c) not persistent; ***scales*** (d) ***rounded, finely irregularly-toothed,*** somewhat stiff; 6-9 cm long.

HABITAT — along coast from sea level to 800 m; grows best on alluvial floodplains and on glacial till affected by permanent seepage water; commonly hybridizes with white spruce in the Skeena area.

Trees

Pinaceae (Pine family)



Pinus contorta

(Lodgepole pine)

TREE (a, b) mostly 10-30 m tall, rounded to pyramidal.

BRANCHES — stout twigs, orange when young, becoming grey-brown and rough.

LEAVES — needles in twos (c), deep green to yellowish-green, often curved.

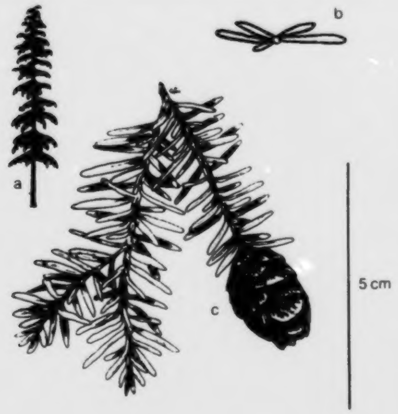
CONES — female cones, egg-shaped (d), usually slightly curved; stiff bracts with armed tips.

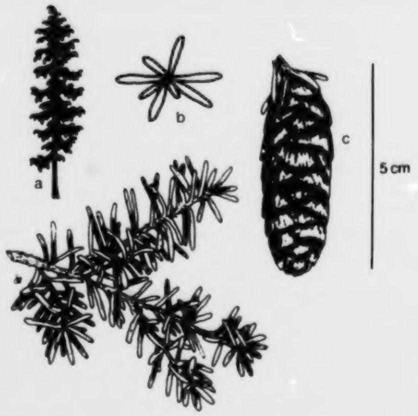
HABITAT — grows on wide variety of sites, grows best on well-drained loams; easily established and frequently promoted by fires. Tolerates droughty, low nutrient conditions.

NOTE — *Pinus contorta* consists of two varieties: *P. contorta* var. *contorta* (Shore pine) and *P. contorta* var. *latifolia* (Lodgepole pine). Characteristics which distinguish shore pine, the coastal form from the inland variety are: a rounded crown (b), a height rarely over 15 m tall, usually furrowed bark, deep green needles and cones pointing backward on the twig whereas *P. contorta* var. *latifolia* is usually columnar (a), up to 20-35 m tall, the bark is never furrowed, needles are usually yellowish-green and are slightly longer than those of shore pine, and the cones, which are slightly larger, point outward. *P.contorta* var. *contorta* is common to the CCPH and *P. contorta* var. *latifolia* is common in the CWHf, ICH and SBS.

Trees

Pinaceae (Pine family)





Tsuga heterophylla

(Western hemlock)

TREE (a) 30-60 m tall, ***drooping leader.***

BRANCHES — mostly drooping.

LEAVES — ***glossy and yellow-green on upper surface,*** white over most of lower surfaces, ***markedly unequal in length,*** usually at right angles to branches to form flat sprays (b).

CONES — female cones egg-shaped (c), 1.5-2.5 cm in length.

HABITAT — often dominant tree in coastal forest, adapted to grow well on raw humus and on decaying wood, very shade tolerant.

Tsuga mertensiana

(Mountain hemlock)

TREE (a) subalpine, erect, rarely 30-40 m tall, often stunted at higher elevations; ***leader only slightly drooping.***

BRANCHES — mostly drooping.

LEAVES — ***covered equally by stomata on upper and lower surfaces;*** needles covering branches on all sides (b).

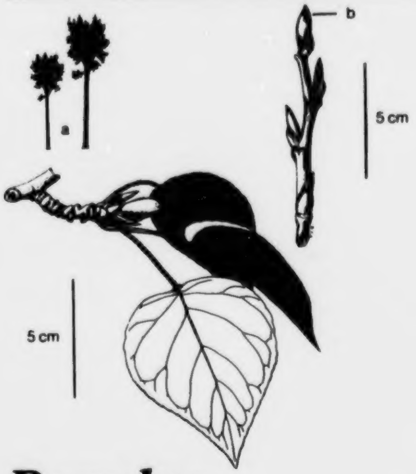
CONES — female cones (c) 3-6 cm in length.

HABITAT — subalpine to timberline; adapted for short vegetative seasons of subalpine climates; frequently found in low elevation bogs under influence of coastal climates. Additionally, it is also found on very dry sites in the Terrace area.

NOTE — The cones of *Tsuga heterophylla* are much shorter than those of *T. mertensiana.*

Trees

Salicaceae (Willow family)



Populus balsamifera ssp. *trichocarpa*

(Black cottonwood)

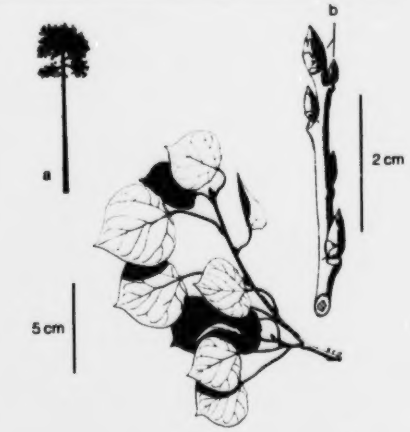
TREE (a) up to 40 m tall.

BARK — old bark deeply furrowed, ***dark grey.***

LEAVES — egg-shaped, rounded to heart-shaped at base, sharp-pointed at tip, pale and often stained with patches of brown resin beneath, margin finely round-toothed; ***petiole 1/3 to 1/2 as long as blade, cylindrical,*** often with a pair of glands at the junction with the blade; leaf not fluttering in slight breeze.

BUDS — (b) ***very resinous and fragrant.***

HABITAT — occurs mostly on loose, porous, sandy or gravelly soils of low-lying damp areas; also occurs to mid-slope position on seepage sites. Forms extensive stands on islands and floodplains of the Skeena River. A seral species on a variety of moist, low elevation sites, common in CCPH.



Populus tremuloides

(Trembling aspen)

TREE (a) up to 25 m tall, tends to multiply by growth of suckers from extensive shallow root system.

BARK — ***white*** turning blackish and somewhat roughened at base of tree with age.

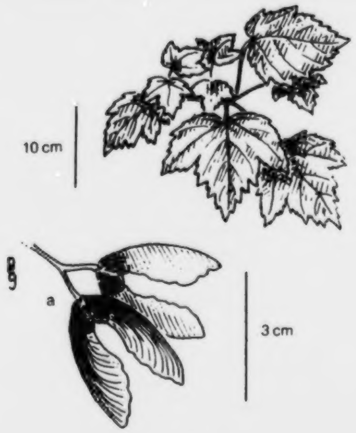
LEAVES — egg-shaped to nearly circular, rounded to square-cut at base, sharp-pointed at tip, paler beneath, margins round-toothed; ***petiole laterally flattened, 2/3 as long as blade*** allowing the leaf to tremble in the slightest breeze; without glands.

BUDS — (b) ***not resinous or fragrant.***

HABITAT — forms extensive stands northwest of Terrace in the Skeena and Bulkley Valleys. Very common in ICHg2 & g3. Tolerates a wide range of conditions, best growth on well drained, moist alluvial soils, will not grow in saturated soils. Infrequent seral species in coastal areas.

Shrubs and Small Trees

Aceraceae (Maple family)



Acer glabrum var. ***douglasii***

(Douglas maple)

SHRUB TO SMALL TREE, 1-10 m tall, bark greyish to reddish.

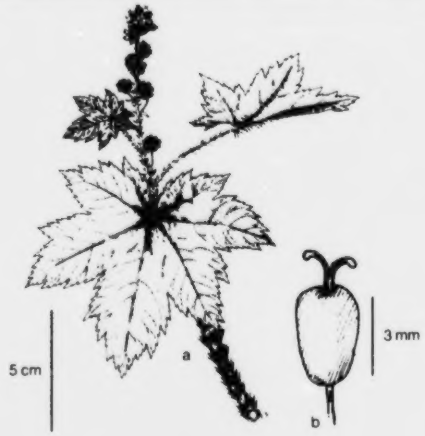
LEAVES — palmately 3-5 lobed, typical "maple-leaf" shape, coarsely twice-serrate, paler below.

FLOWERS — ***in axillary clusters,*** appearing with the leaves, greenish-yellow in colour, imperfect.

FRUIT — ***samaras*** (a) ***not greatly divergent.***

HABITAT — mostly east of Cascades; from lowland to moderate elevations; frequently on south facing aspects in the Kitwanga-Hazelton area. More common in the interior than coastal subzones, but also widespread in CWHf.

Araliaceae (Ginseng family)



Oplopanax horridus

(Devil's club)

SHRUB, deciduous, ***1-3 m tall, with thick stems armed with numerous yellowish spines*** (a).

LEAVES — shallowly, palmately 7-9 lobed, broad, twice serrated. ***"Maple-leaf"-like,*** with numerous spines present on underside.

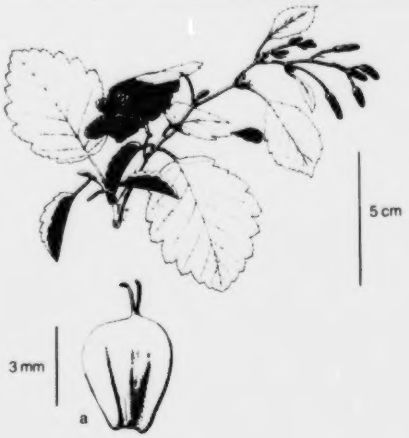
FLOWERS — in an elongated cluster to 25 cm long composed of several smaller clusters.

FRUIT — considerably ***flattened bright red berries*** (b); little is known about their edibility, not recommended.

HABITAT — in moist woods, especially in seepage sites and along streams; coastal and wet interior.

Shrubs and Small Trees

Betulaceae (Birch family)



Alnus incana ssp. *tenuifolia*

(Mountain alder)

SHRUB OR SMALL TREE, up to 12 m tall.

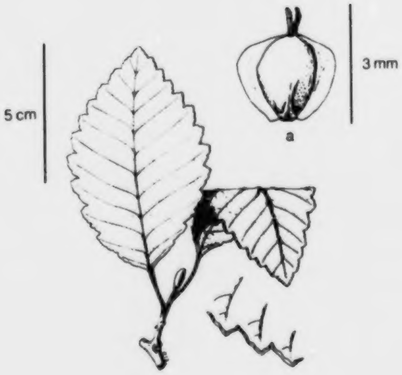
BRANCHES — twigs glabrous to woolly hairy.

LEAVES — broadly elliptic, ***rounded to somewhat heart-shaped at base, rounded to blunt at tip;*** shallowly lobed, double toothed; upper surface green, lower surface pale, usually abundantly hairy at least along veins; petioles hairy; ***young leaves not sticky; buds short stalked and club-shaped.***

CATKINS — ***produced on growth of previous season.***

FRUIT — (a) ***nutlet without membranous wing.***

HABITAT — mostly along streams or at edge of ponds or lakes, in alluvial and other moist soils. Absent from coastal zones.



Alnus rubra

(Red alder)

SMALL TREE up to 25 m tall.

BRANCHES — twigs hairy when young, becoming dark red with light dots.

LEAVES — broadly elliptic, ***sharp-pointed at base and tip;*** larger teeth having 3-6 sharp, in-rolled teeth ; smooth, deep green and dull above, rusty-grey, usually somewhat hairy particularly along veins beneath; petioles sparingly hairy; ***young leaves not sticky; buds stalked and club-shaped.***

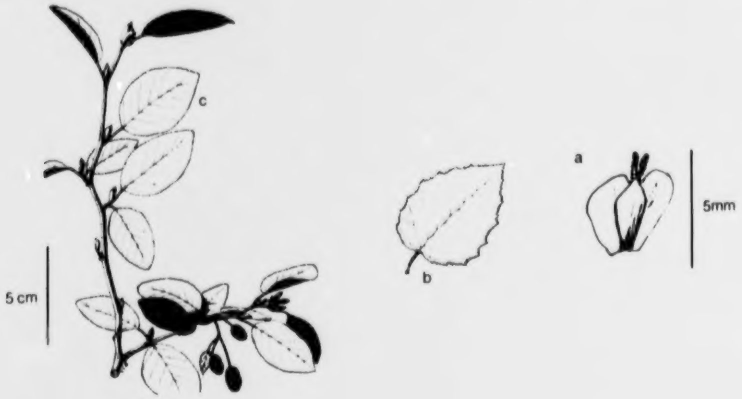
CATKINS — ***developing on growth of previous season.***

FRUIT — (a) ***nutlets with thin membranous wings.***

HABITAT — commonly grows in pure stands as an early occupant of cleared land. A seral species which is predominantly coastal, found in the CWH, but missing from the ICH.

Shrubs and Small Trees

Betulaceae (Birch family)



Alnus viridis

(American green alder)

SHRUB or, rarely, small tree up to 8 m tall.

BRANCHES — twigs hairless to finely hairy, smooth, reddish brown.

LEAVES — ***egg-shaped to elliptic, sharp-pointed at tip***; finely double toothed, often shallowly lobed, leaves yellowish-green on both sides, usually shiny and smooth above, hairy in vein axils below, petioles usually glabrous, ***young leaves sticky beneath, buds sessile and pointed.***

CATKINS — ***arising from buds of the current season.***

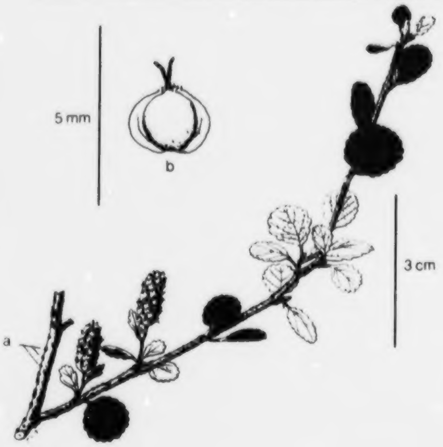
FRUIT — (a) nutlet with wings.

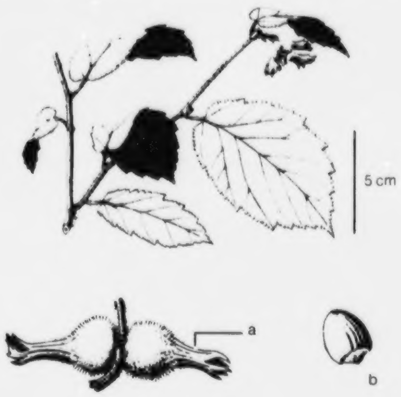
HABITAT — well-drained upland areas, on glacial moraines, often forming thickets near upper timberline in mountains. Found throughout Skeena region particularly at higher elevations.

NOTE — *Alnus viridis* is made up of two subspecies, *Alnus viridis* ssp. *sinuata* (Sitka mountain alder) and *Alnus viridis* ssp. *fruticosa* (American green alder). The differences resulting in the separation are that *A. viridis* ssp. *sinuata*, which is more common in coastal northern British Columbia, is a shrub or small tree and has leaf margins which are shallowly lobed as well as doubly toothed (b), whereas *A. viridis* ssp. *fruticosa*, which is more common in the interior of northern British Columbia, has leaf margins only slightly or not at all lobed, merely double toothed (c) and is almost always a shrub. Most plants in the Skeena are ssp. *sinuata*.

Shrubs and Small Trees

Betulaceae (Birch family)





Betula glandulosa var. ***glandulosa***

(Bog birch)

SHRUB, low and spreading to erect, mostly 1-2 m tall.

BRANCHES — ***abundantly resinous with wart-like crystalline glands*** (a).

LEAVES — nearly circular; round-toothed, ***commonly 10 teeth per side or less***; somewhat thick and leathery, ***glandular on both surfaces,*** bright green usually without hairs above, paler and often hairy below.

CATKINS — flowering with the appearance of leaves in the spring.

FRUIT — (b) nutlet with wings obscure to barely half as broad as body.

HABITAT — streambanks, margins of marshes, lakes, and bogs, and on alpine slopes. ICHg3 and SBS bogs and fens.

Corylus cornuta var. ***cornuta***

(Beaked hazelnut)

SHRUB up to 4 m high; ***twigs, leaves and bud scales covered in long white hairs.***

BRANCHES — twigs sparsely long-hairy, glabrous after first season.

LEAVES — elliptic to egg-shaped, commonly heart-shaped at base, sharp-pointed at tip; margin double toothed; lower surface paler than upper surface.

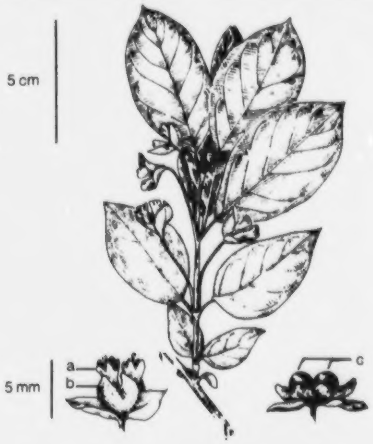
CATKINS — flowering before development of leaves in spring.

FRUIT — ***spherical edible nut*** enclosed in flask-like hairy involucre which elongates into a beak with irregularly jagged toothed tip (a); fruit (b) ripening usually in August and September.

HABITAT — lower elevations from valleys to lower montane slopes, on well-drained soil; thickets and open woods; most abundant in mid-Skeena Valley from Babine River to Kitwanga and in Kisipiox Valley ***ICHg3 indicator species.***

Shrubs and Small Trees

Caprifoliaceae (Honeysuckle family)



Lonicera involucrata

(Black twin-berry)

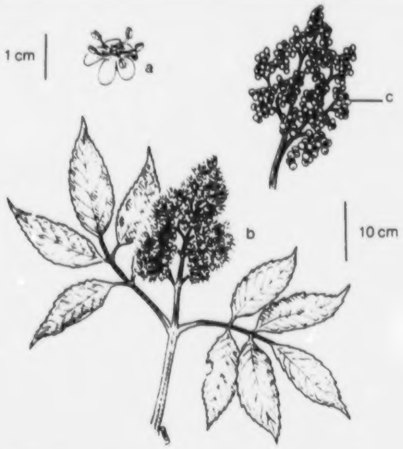
SHRUB, 0.5 to 5 m tall; ***young twigs four-angled.***

LEAVES — opposite, short-stemmed, somewhat ***elliptical,*** pointed, often hairy beneath.

FLOWERS — axillary, paired, ***yellow tubular flower*** (a) ***with a pair of purplish bracts*** (b).

FRUIT — several-seeded, ***black, "twin" berries*** (c), not considered palatable; some Indian groups claimed that eating the berries would make one crazy.

HABITAT — on fairly moist or wet soils, in woodlands and thickets. Found in alluvial black cottonwood ecosystem association in CWHf, ICHg1 and g2, also on moist upland forest in ICHg3 and SBS.



Sambucus racemosa ssp. *pubens*

(Coast red elderberry)

SHRUB TO SMALL TREE, mostly 2-6 m tall, ***with soft pithy twigs.***

LEAVES — opposite, with petiole, mostly 5-7 leaflets; the leaflets lance-shaped, pointed, sharply serrated, often somewhat hairy beneath.

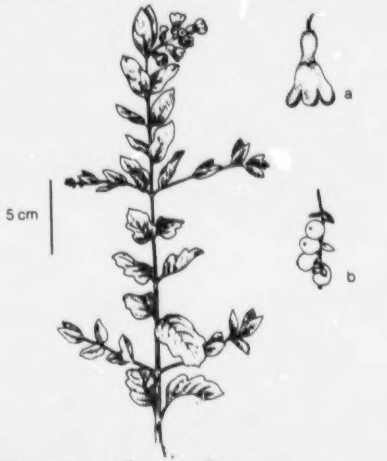
FLOWERS — (a) in a rounded or pyramidal cluster (b), white to creamy.

FRUIT — ***bright red berry-like drupe*** (c), smooth nutlets; not palatable and ***may cause nausea*** (typical of var. *arborescens*, Coastal american red elder) - ***black berry-like drupes*** on var. *leucocarpa*.

HABITAT — typically coastal, occurring at low to moderate elevations. In CWHf and CCPH, especially on subhygric/hygric open sites along streams and on gullies.
The var. *arborescens* is infrequent in ICH (western portions only) not present in SBS; var. *leucocarpa* (Eastern american red elder) may be found in ICH and SBS.

Shrubs and Small Trees

Caprifoliaceae (Honeysuckle family)



Symphoricarpos albus var. *laevigatus*

(Common snowberry)

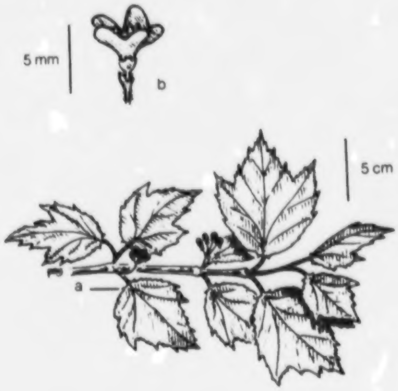
SHRUB, erect branching, 1-2 m tall; twigs very fine, ***with or without few hairs.***

LEAVES — ***opposite*** elliptic to elliptic-ovate, entire or with a few coarse teeth.

FLOWERS — mostly terminal, ***pink to white, short, broad "bells"*** (a) in short dense clusters of few flowers.

FRUIT — ***white, persistant through the winter, globose, berry-like*** (b), with 2 nutlets; considered poisonous by many; used medicinally by many Indian groups.

HABITAT — thickets, woods, and open slopes, from lowland to middle elevation in mountains.



Viburnum edule

(High-bush cranberry)

SHRUB, straggling to erect, 0.5-2.5 m tall.

LEAVES — opposite palmately veined, ***shallowly 3-lobed, hairy beneath, sharply toothed, often with a pair of teeth*** (a) ***near the junction of the blade with the stem.***

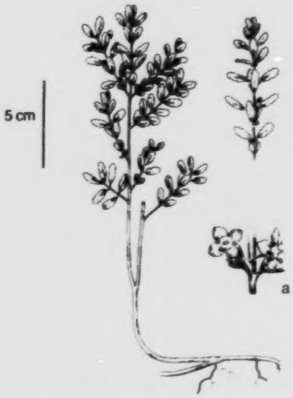
FLOWERS — (b) a small cluster of a few white flowers borne on short axillary stem with a pair of leaves.

FRUIT — ***a one-seeded red or orange berry-like drupe*** with a large flattened stone; edible, juicy, acid and tart.

HABITAT — moist woods, scrubby swamps, and streambanks; province-wide. Occurs in mesic and wetter sites in the Hazelton variant of the ICHg3. However, in the CWH this species is restricted to moist rich sites, especially alluvial sites.

Shrubs and Small Trees

Celastraceae (Stafftree family)



Paxistima myrsinites

(Falsebox)

SHRUB, erect to prostrate, evergreen to 0.6 m tall with brown, ***4-ridged branches.***

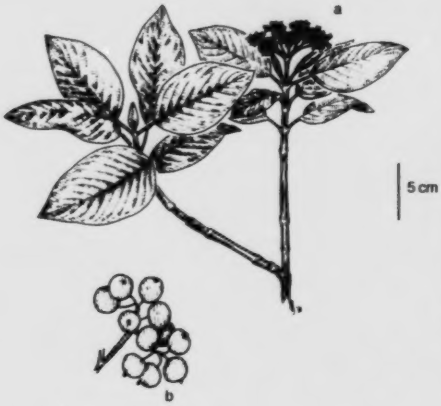
LEAVES — ***opposite*** or nearly so, oval to elliptic, 1-3 cm long, leathery and serrated.

FLOWERS — (a) numerous, ***small reddish,*** in ***axillary*** clusters; ***4-merous*** .

FRUIT — ***a small oval 1-2 seeded capsule.***

HABITAT — generally on mesic to xeric, low to mid elevations in the ICHg and SBS. Very common in ICHg3.

Cornaceae (Dogwood family)



Cornus sericea

(Red-osier dogwood)

SHRUB, many stemmed, 2-6 m tall, usually freely spreading by layering of reclining or prostrate stems; ***young stems usually bright reddish.***

LEAVES — opposite, heavily veined, ***oval,*** mostly sharp-pointed 4-12 cm long, greenish above, paler and hairy beneath.

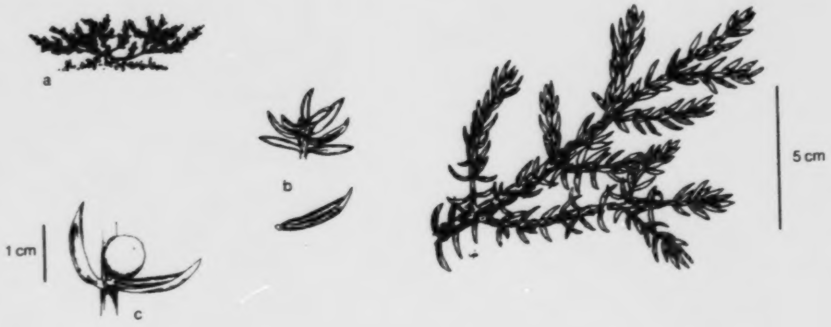
FLOWERS — ***white in flat-topped cluster*** (a).

FRUIT — (b) ***white*** (occasionally bluish) with a somewhat flattened stone; not edible.

HABITAT — usually in moist soils especially along streams; in mesic sites rich in nutrients in the Hazelton variant of the ICHg3. However, in the amabilis fir-spruce subzone of the CWH, this species is restricted to moist rich sites and is especially common on alluvial sites in all of the zones where it is often a "brush species". It is a very important moose winter browse species.

Shrubs and Small Trees

Cupressaceae (Cypress family)



Juniperus communis

(Common juniper)

SHRUB (a), prostrate, trailing-branched to rounded, up to 1.5 (3) m tall.

LEAVES — ***mostly in three's, needle-like*** to narrowly lance-shaped (b), usually stiff, very sharp-pointed, whitish above, dark green below.

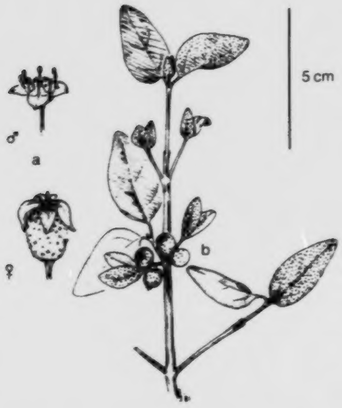
CONES — ***female cones berry-like*** (c), bluish-black, very fleshy, maturing second season.

HABITAT — widespread in the Skeena, from dry open woods to exposed slopes, mountain valleys to open rocky slopes, from near sea level to subalpine or alpine areas. Usually indicates subxeric conditions. Can also be found in some coastal (CCPH) muskegs.

NOTE — *J. scopulorum*, (Rocky mountain juniper) a small more erect shrub which occurs infrequently in the Skeena area (ICHg3), differs from *J. communis* in having mostly scale-like leaves with juvenile leaves being needle-like, in having berry-like female cones covered in a whitish powder, and ranging in height from 1-10 m.

Shrubs and Small Trees

Elaeagnaceae (Oleaster family)



Shepherdia canadensis

(Soapberry)

SHRUB, unarmed spreading, 1-4 m tall; branches brownish; ***young branches with rusty spots.***

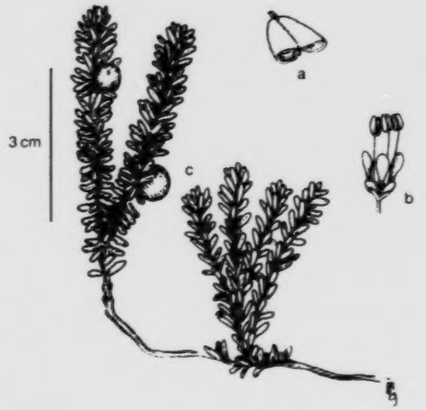
LEAVES — oval, opposite, dark-greenish on upper surface, whitish silvery hairs and ***rusty brown spots on the under surface.***

FLOWERS — (a) ***1-several, yellowish-brown, in leaf axils;*** male and female flowers on separate plants.

FRUIT — ***orange-red, fleshy, translucent berry*** (b); have a strong sour-bitter taste; used by several Indian groups to make what is commonly known as "Indian ice cream".

HABITAT — dry open woods; throughout B.C. Dominant shrub in dry, low nutrient pine associations of ICHg and SBS.

Empetraceae (Crowberry family)



Empetrum nigrum

(Crowberry)

SHRUB, health-like, low, spreading, to 15 cm tall; branches with long woolly hairs.

LEAVES — somewhat rounded in cross section (a), needle-like, alternate and in whorls of 4, ***hairy with margins rolled under.***

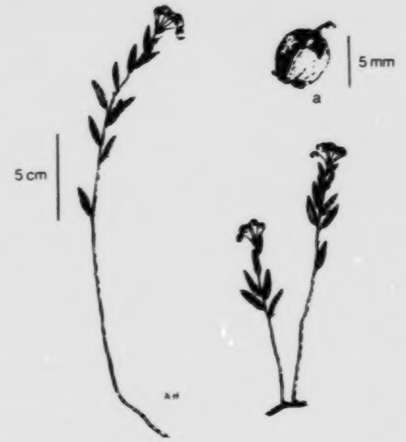
FLOWERS — (b) inconspicuous, purplish, occurring singly near tip of stem.

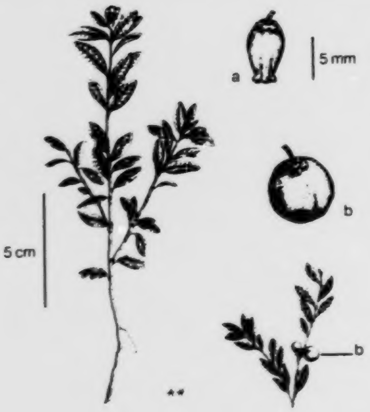
FRUIT — ***round, purplish or black berries*** (c) borne singly along the stem or in clusters of 2-5; edible, juicy with large hard seeds; makes fine jellies and jams.

HABITAT — swamps, muskegs, dry sites, and rocky mountain slopes; throughout province.

Shrubs and Small Trees

Ericaceae (Heath family)





Andromeda polifolia

(Bog rosemary)

SHRUB, small, evergreen, low-spreading, 10-80 cm tall; stems erect from creeping rootstocks.

LEAVES — leathery, dull green, narrowly elliptic to nearly linear in outline, sharp-pointed, margins entire, rolled under at edge, lower surface whitish due to presence of fine, waxy powder, not hairy.

FLOWERS — ***pinkish, urn-shaped*** (a), inflorescence 2-6 flowered, ***flower stems somewhat curved backwards at tip.***

FRUIT — capsule.

HABITAT — acid bogs, swamps, moist meadows. In coastal and interior subzones.

Arctostaphylos uva-ursi

(Kinnikinnick)

SHRUB, evergreen, trailing, often forming mats with long flexible rooting branches.

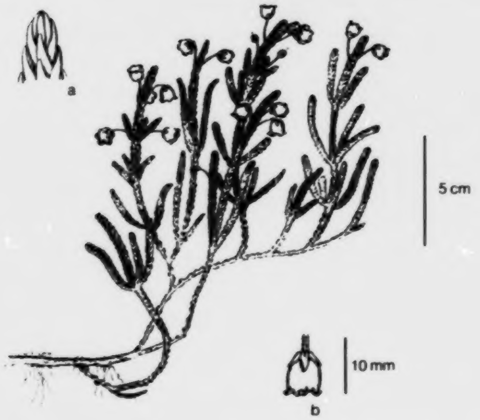
LEAVES — oval to spatula shaped, leathery entire, dark green, somewhat shiny above, paler beneath, to 2.4 cm long; used as a tobacco substitute in past.

FLOWERS — ***in a dense terminal cluster,*** urn-shaped (a), white or tinged with pink.

FRUIT — ***bright red berry*** (b) resembling miniature apple with mealy and rather tasteless pulp; edible.

HABITAT — on exposed and well drained sites, province wide. An indicator of poor dry sites in the ICHg and SBS. Found in lodgepole pine-moss-lichen and soapberry ecosystems.

Shrubs and Small Trees
Ericaceae (Heath family)



Cassiope mertensiana
(Merten's mountain heather)

SHRUB, dwarf plant, 5-30 cm tall, forming widespread mat; ***stems*** 5-30 cm tall, ***nearly completely hidden by leaves.***

LEAVES — ***opposite,*** scale-like (a), distinctly 4-ranked, ***pressed flat against stem,*** sessile, egg-shaped to lance-shaped, rounded on back, grooved only at extreme base.

FLOWERS — usually several near branch tips, bell-shaped (b); ***petals white;*** sepals reddish.

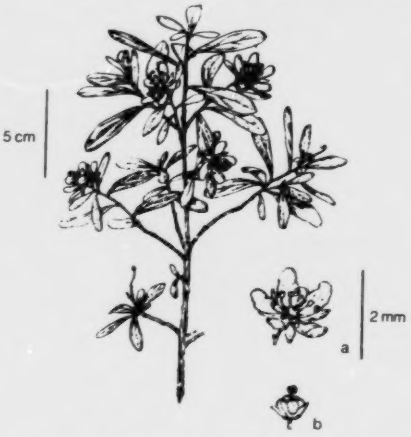
FRUIT — capsule.

HABITAT — alpine meadows and open forests in upper subalpine zones. A dominant species of alpine heath communities throughout most of B.C.

NOTE — *C. stelleriana* (Moss heather) and *C. lycopodioides* (Club-moss mountain heather) also occur in the Skeena area and are both found in the alpine. *C. stelleriana* has alternate spreading leaves and flowers usually solitary, terminal and erect. *C mertensiana* and *C. lycopodioides* have opposite appressed leaves with flowers mainly several and lateral or subterminal. *C. mertensiana* has a stem 4 mm broad and leaves in four distinct rows while the stem of *C. lycopodioides* is smaller (2 mm broad) and leaves are not in four distinct rows.

Shrubs and Small Trees

Ericaceae (Heath family)



Cladothamnus pyroliflorus

(Copperbush)

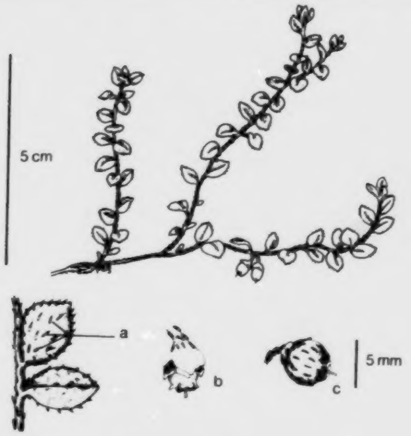
SHRUB 0.5 - 3 m tall, deciduous with ***scaly bark.***

LEAVES — pale green, very thin, not hairy, somewhat ***covered in fine, waxy powder,*** elliptic to lance-shaped but broadest above middle and tapering to base, tipped with short, sharp, slender point, entire, nearly sessile, alternate.

FLOWERS — (a) ***solitary,*** showy, salmon or copper coloured, petals oblong-elliptic, spreading.

FRUIT — 5 - 6 valved capsule (b).

HABITAT — moist forest and streambanks, in coastal regions, common in MH, restricted in CWH and CCPH.



Gaultheria hispidula

(Creeping snowberry)

SHRUB, slender-stemmed, creeping, matted, delicate, evergreen, with brownish hairs.

LEAVES — abundant, evergreen, leathery, alternate, edges rolled under, ***with brown appressed scale-like hairs beneath*** (a).

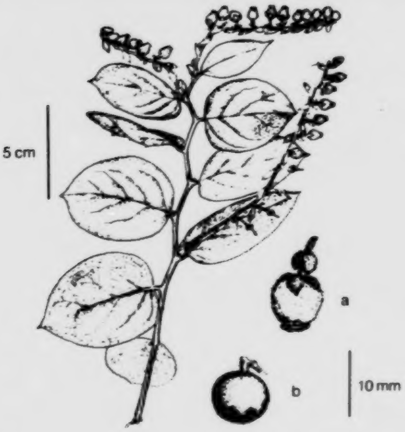
FLOWERS — mostly ***solitary in axils of leaves,*** on short stem, bell-shaped (b), pinkish.

FRUIT — ***white berry with hairs*** (c); juicy with a mild wintergreen flavour.

HABITAT — essentially an interior species (ICHg and SBS) found on bogs or upland black spruce forest, on *Sphagnum* hummocks or on decaying wood. Indicator of poor sites.

Shrubs and Small Trees

Ericaceae (Heath family)



Gaultheria shallon

(Salal)

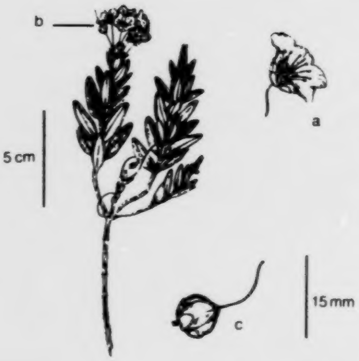
SHRUB, erect to prostrate, rigid, freely branching, up to 2-5 m tall, with ***hairy stems.***

LEAVES — evergreen, ovate, leathery, sharply serrulate.*

FLOWERS — ***in terminal and subterminal axillary inflorescence;*** oriented in one direction, ***white or pink, urn-shaped*** (a).

FRUIT — ***glandular, hairy, red blue to nearly black, fleshy, berry-like*** (b); edible, sweet; makes good jellies and wine.

HABITAT — mainly in coniferous forests, thickets, rocky cliffs; typically a coastal species, characteristic of the CCPH zone, a good indicator of mild coastal conditions, not found in CWHf.



Kalmia microphylla ssp. *occidentalis*

(Western swamp laurel)

SHRUB, small evergreen, slender branched, spreading by layering, often matted to 50 cm tall.

LEAVES — narrow lance-shaped, dark green above, ***conspicuously whitish beneath, margins rolled under,*** opposite, mostly 2-4 cm long, leaves pointing upward, not bent downwards.

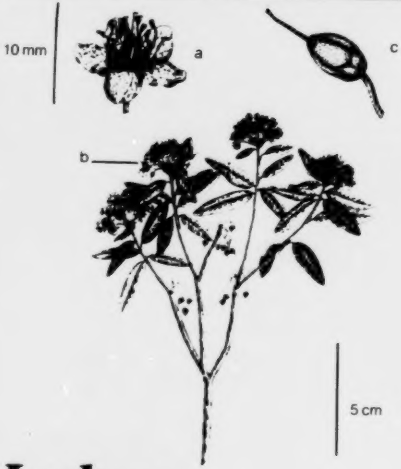
FLOWERS — (a) ***deep pinkish-rose*** in terminal cluster (b), 1-2 cm broad.

FRUIT — a 5-valved capsule (c).

HABITAT — peat bogs, peaty soils, muskeg, and mountain meadows in coast and interior subzones.

Shrubs and Small Trees

Ericaceae (Heath family)



Ledum groenlandicum

(Bog Labrador tea)

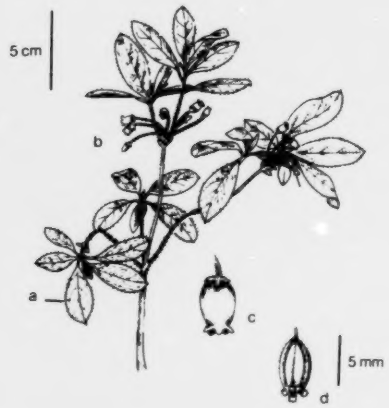
SHRUB, evergreen, to 1 m tall with ***dense rusty hairs on twigs.***

LEAVES — narrow, elliptic, leathery, deep green, above, ***with dense rusty hairs beneath, margins rolled under,*** alternate, often drooping downwards.

FLOWERS — (a) ***white,*** in terminal cluster (b) from large scaly buds.

FRUIT — a hairy, narrow, oval capsule (c).

HABITAT — in muskegs, swamps, bogs, and moist coniferous woods. A dominant shrub in coastal muskeg and interior black spruce bogs. Indicator of wet, usually very acid and poor organic soils.



Menziesia ferruginea

(False azalea)

SHRUB, erect to spreading, to 2 m tall, deciduous, ***with scaly bark on older branches;*** young twigs covered with fine hairs, somewhat glandular.

LEAVES — dull, thin, oblong to elliptic, light green to blue green, ***hairy-glandular,*** serrated margin (a).

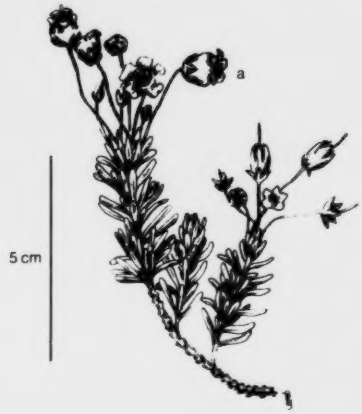
FLOWERS — ***in terminal clusters*** (b) on last year's growth, urn-shaped (c), small yellowish tinged with red.

FRUIT — persistent oval capsule (d) with thin wall.

HABITAT — shady woods, moist slopes, streambanks; coastal and wet interior.

Shrubs and Small Trees

Ericaceae (Heath family)



Phyllodoce empetriformis

(Red mountain heather)

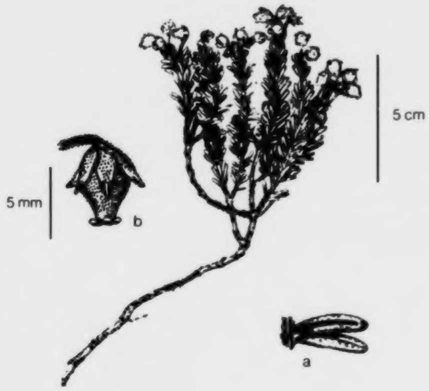
SHRUB, evergreen, much-branched, matted plant 10-40 cm tall; young stems glandular-hairy becoming glabrous with age.

LEAVES — needle-like, linear, glabrous except for minutely glandular margins; ***groove present on lower surface.***

FLOWERS — bell-shaped (a); petals pink to deep rose.

FRUIT — capsule.

HABITAT — alpine meadows and subalpine zone.



Phyllodoce glanduliflora

(Cream mountain-heather)

SHRUB, perennial 10-40 cm tall; ***young stems glandular-hairy.***

LEAVES — (a) needle-like, finely glandular-hairy, ***rolled backward, alternate.***

FLOWERS — densely glandular-hairy, narrowly urn-shaped (b); petals dirty yellowish to greenish-white.

FRUIT — capsule.

HABITAT — alpine meadows and open forests near timberline.

Shrubs and Small Trees

Ericaceae (Heath family)

KEY TO THE COMMON *Vaccinium* SPECIES

By Phil Comeau

1a. Small low-growing shrubs with evergreen somewhat leathery leaves.

  2a. Vine-like or mat forming shrubs; grey or brown branches; leaves entire, turned under at the margins; dark red berries.

    3a. Vine-like trailing shrub; leaves pointed at the apex with a greyish waxy bloom beneath. Flowers nodding on long pedicels, corolla deeply 4-cleft; petals deep pinkish, curving upward .... *Vaccinium oxycoccos*

    3b. Branching mat-forming shrub; leaves rounded at the apex with small dark spots beneath. Flowers bell-shaped in short terminal clusters .... *V. vitis-idaea*

  2b. Leaves serrate, not in-rolled, on green, somewhat flexuous twigs that are sharply angled in cross-section; no flowers or fruit .... *V. parvifolium* (juvenile form)

1b. Generally larger erect shrubs, leaves deciduous.

  4a. Leaves sharply serrate to tip (at least above middle of leaf).

    5a. Leaves oblanceolate; low growing shrub to 30 cm tall .... *V. caespitosum*

    5b. Leaves ovate to elliptic-oblong, acuminate, sharply serrate or coarsely serrulate along margins, glandular and paler on lower surface; twigs woody; shrubs to 2 m tall.......... .... *V. membranaceum*

  4b. Leaves of mature twigs not sharply serrate (at least not at leaf tip) and leaves generally not acuminate.

    6a. Leaves generally less than 3 cm long.

      7a. Leaves thinner than 7b; branches green or greenish brown when dry, sharply angled, upper twigs appearing stout; leaves hairy along midvein beneath and stems hairy, plant appearing broom-like (branches pointing upward, crowded), fruit red .... *V. parvifolium*

      7b. Leaves firm and thick (at maturity); older stems greyish-red and younger stems yellowish-green, finely hairy; leaves entire oblanceolate, to obovate, obtuse or occasionally retuse, from ½ to as wide as long; 1-3 cm long, strongly reticulate veiny, green above, pale or covered with a fine waxy powder beneath, smooth, low shrubs, up to 50 cm tall, mostly in bogs or organic soils, fruit blue/black............. .... *V. uliginosum*

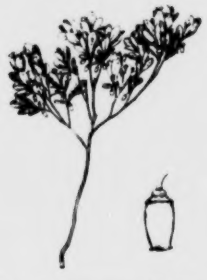
    6b. Leaves of mature twigs generally greater than 3 cm long; plants spreading, large shrubs; branches brown, reddish, yellowish or greenish brown, not obviously angled; twigs slender.

      8a. Leaves sparsely glandular and/or hairy along midvein; veins often darker than underneath of leaf (when pressed), brownish or brownish-red and leaf near veins generally dark tinted; stems hairy; twigs yellowish-green to brown .... *V. alaskaense*

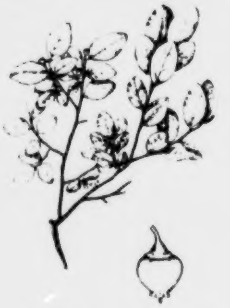
      8b. Leaves smooth with fine waxy powder beneath, not glandular or hairy; lateral veins prominent beneath leaf, veins often lighter than surrounding leaf tissue and yellowish-green; twigs conspicuously grooved, glabrous and often reddish .... *V. ovalifolium*

Shrubs and Small Trees

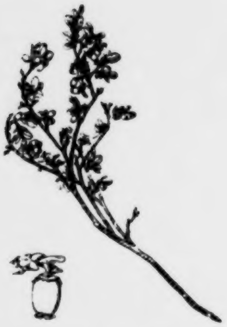
Ericaceae (Heath family)



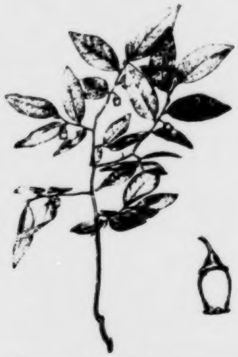
Vaccinium caespitosum



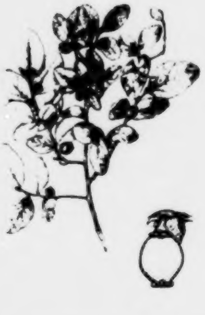
Vaccinium alaskaense



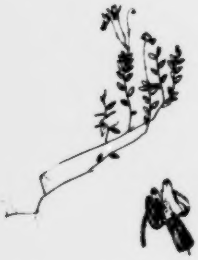
Vaccinium uliginosum



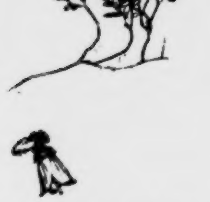
Vaccinium membranaceum



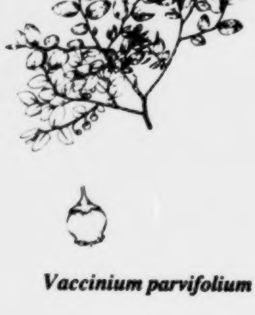
Vaccinium ovalifolium



Vaccinium oxycoccos

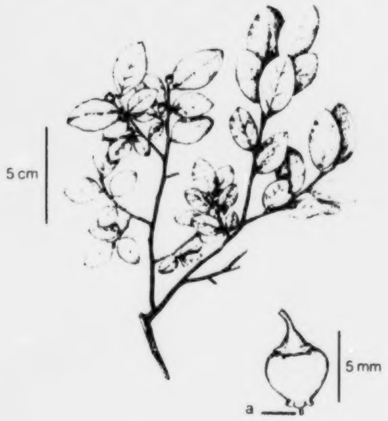


Vaccinium vitis-idaea



Vaccinium parvifolium

Ericaceae (Heath family)



Vaccinium alaskaense

(Alaskan blueberry)

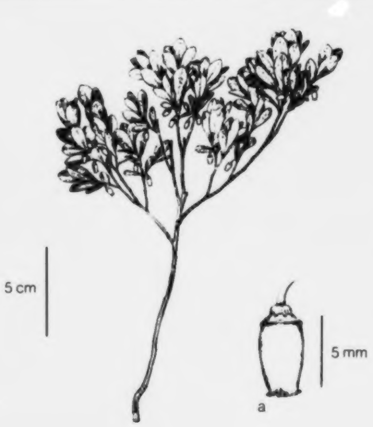
SHRUB, erect, deciduous, to 1.5 m tall with yellowish-green, slightly to strongly angled twigs; older branches greyish.

LEAVES — oval, entire or with inconspicuous small teeth, dark green above, whitish beneath, ***with glandular hairs on undersurface midrib.***

FLOWERS — bronze to pinkish-green, ***appearing when leaves are expanded, style exserted*** (a).

FRUIT — bluish-black to reddish-black berries ***without bloom,*** of good flavour.

HABITAT — On raw humus in coniferous forests, very abundant in coastal zones, rare in ICHg.



Vaccinium caespitosum

(Dwarf huckleberry)

SHRUB, widely spreading, depressed or tufted, ***dwarf shrub*** to 30 cm tall; twigs yellowish-green to reddish, often hairy, ***somewhat angled.***

LEAVES — oblanceolate, less than 3 cm long, ***bright green on both sides,*** pointed or blunt, serrated on upper half; ***network of veins pronounced beneath.***

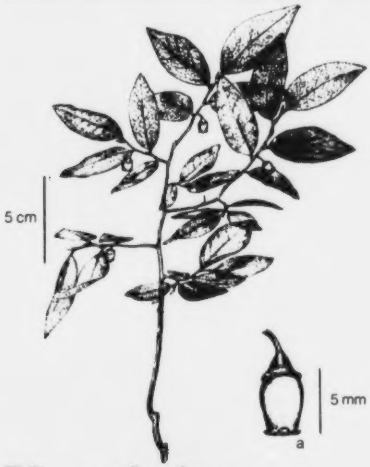
FLOWERS — Whitish to pink, narrow urn-shaped (a), single in axil of leaf.

FRUIT — ***light blue to blackish-blue*** with a ***pale bloom;*** edible and sweet.

HABITAT — wet meadows, mountain slopes, moist rocky ridges, and alpine tundra. A good indicator species of low to medium nutrient, drier sites in ICHg and SBS.

Shrubs and Small Trees

Ericaceae (Heath family)



Vaccinium membranaceum

(Big huckleberry, blue huckleberry)

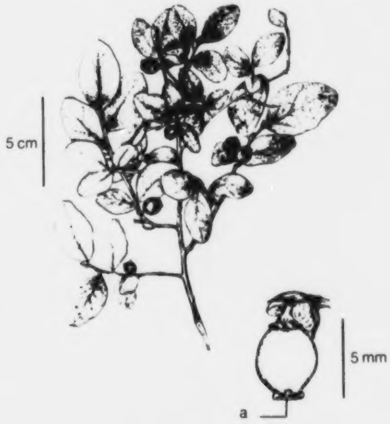
SHRUB, coarse densely branched, erect,, 0.5 to 2 m tall; young branches yellowish-green, somewhat angled; old branches with greyish shredding bark.

LEAVES — 2-5 cm long, thin, pointed and distinctly serrated, ***paler on lower surface.***

FLOWERS — creamy-pink, single in leaf axil, urn-shaped (a).

FRUIT — ***purplish-black berry, without bloom;*** edible and of good flavour.

HABITAT — widespread to high elevations throughout B.C. with the exception being the outer coastal region (CWH and CCPH).



Vaccinium ovalifolium

(Oval-leaved huckleberry)

SHRUB, slender, spreading, deciduous, to 1.5 m tall; old branches greyish; young twigs brownish to yellowish, often reddish angled.

LEAVES — oval-shaped, blunt at both ends, entire or nearly so, green above, lighter beneath.

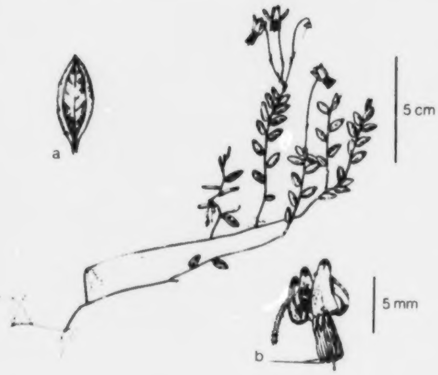
FLOWERS — pink "bells", ***appearing before leaves; style included*** (a).

FRUIT — blue-black berries with ***bluish bloom;*** very edible and of considerable size.

HABITAT — cool shady forest; to subalpine elevations. Found in ICHg as well as coastal zones.

Shrubs and Small Trees

Ericaceae (Heath family)



Vaccinium oxycoccos

(Wild cranberry)

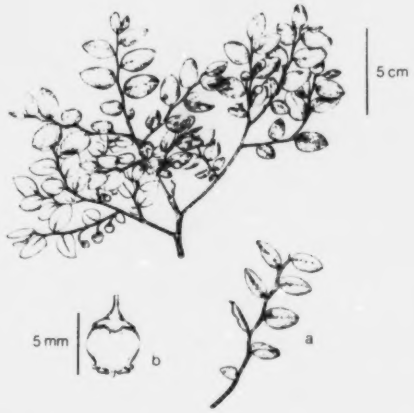
SHRUB, ***creeping and vine-like;*** to 40 cm tall; stems slender with brown to black bark, glabrous to finely hairy.

LEAVES — 6-10 mm long, persistent, alternate, leathery, edges rolled under (a), dark green above, ***greyish-waxy beneath without hairs, pointed at apex.***

FLOWERS — borne on slender, long, nodding stem, often solitary, not more than 3; ***deep pink with recurved petals and protruding stamens*** (b).

FRUIT — dark red berry; resembles domestic cranberry in taste.

HABITAT — restricted to *Sphagnum* bogs. Widespread in coastal muskegs and interior black spruce bogs.



Vaccinium parvifolium

(Red blueberry)

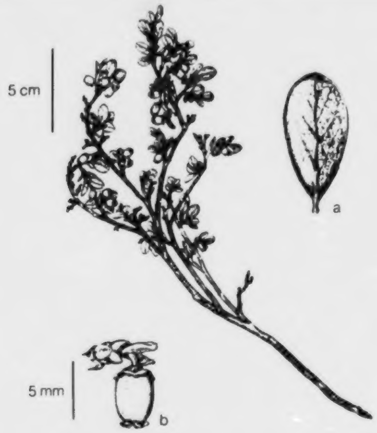
SHRUB, erect to 4 m tall, with slender, green, ***prominently angled young branches.***

LEAVES — 1-3 cm long, oval to oblong; ***entire at maturity; finely serrated and persistent when juvenile*** (a).

FLOWERS — ***greenish-yellow or pinkish,*** urn-shaped (b).

FRUIT — ***bright red berry;*** edible, sour taste but of good flavour.

HABITAT — coastal; in coniferous forests, on raw humus and decaying wood. Very common in CWH and CCPH zones, absent from interior zones.



Vaccinium uliginosum

(Bog blueberry)

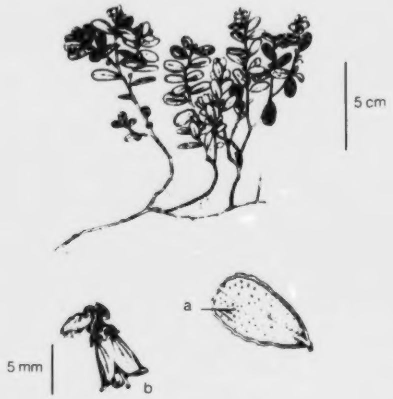
SHRUB, freely branched, 20-50 cm tall; young branches yellowish-green ***hairy, not angled;*** old branches greyish-red.

LEAVES — entire, firm, deciduous, lance to egg-shaped but broadest above middle, 1-3 cm long, ***network of veins strongly pronounced on lower surface*** (a).

FLOWERS — 1-4 per axil, ***pink,*** urn-shaped (b), sepals persistent on mature fruit.

FRUIT — ***blue, covered in fine waxy powder;*** edible and sweet.

HABITAT — *Sphagnum* peat bogs, alpine areas.



Vaccinium vitis-idaea ssp. *minus*

(Mountain cranberry)

SHRUB, ***mat-forming*** perennial, 10-20 cm tall: branches creeping or trailing, tufted, hairy.

LEAVES — evergreen, leathery, almost sessile, narrowly elliptic to egg-shaped but broadest above middle, ***rounded at tip,*** margins rolled backward, ***shining above, pale beneath and dotted with dark glands*** (a).

FLOWERS — few, in short terminal clusters, corolla ***"bell"-shaped*** (b); ***petals pinkish.***

FRUIT — red edible berry.

HABITAT — dry bogs, rocky thickets, low coniferous woods; acid soil. Frequent in coastal muskegs, apparently absent from the ICHg and SBS in the Skeena area.

Shrubs and Small Trees

Grossulariaceae (Currant or Goosberry Family)

KEY TO THE COMMON GOOSEBERRIES AND CURRANTS (*Ribes* spp.)

Adapted from Hitchcock, 1973

1a. Stems with spines or prickles (Gooseberries).
  2a. Racemes, several-flowered; berries dark, purple, bark brownish .... *Ribes lacustre*
  2b. Racemes, one or two flowered, flowers tubular-shaped; berries dark purple, bark greyish .... *R. oxyacanthoides*

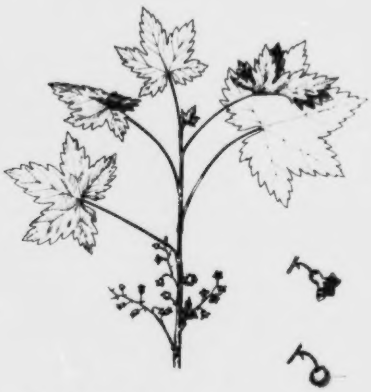
1b. Stems without spines or prickles (Currants).
  3a. Ovary and fruit speckled with resin dots; racemes up to 30 cm long; bracts, long, linear or broader above middle; lobes of leaves acute; flowers greenish .... *R. bracteosum*

  3b. Ovary not speckled with resin dots, smooth (not hairy) or with stalked glands.
    4a. Ovary and fruit smooth; fruit red .... *R. triste**
    4b. Ovary hairy usually with stalked glands; fruit red or dark purple.
      5a. Sepals not hairy on back; fruit red .... *R. glandulosum* *
      5b. Sepals hairy on back; fruit dark purple .... *R. laxiflorum*

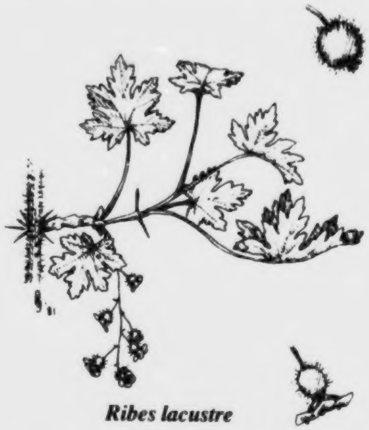
* While *Ribes triste* (wild red currant) and *R. glandulsoum* (skunk currant) are present in the Skeena area, they are typically interior species. Descriptions and illustrations are not provided for these species in the text.

Shrubs and Small Trees

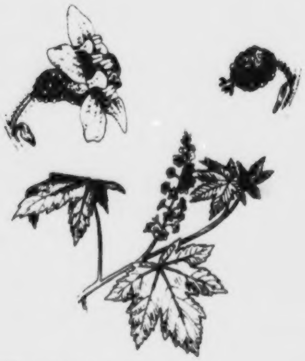
Grossulariaceae (Currant or Gooseberry family)



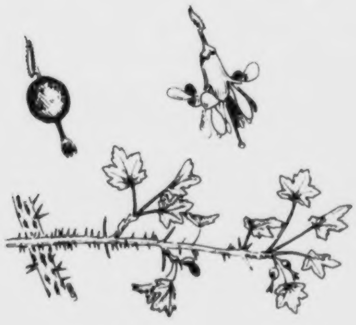
Ribes laxiflorum



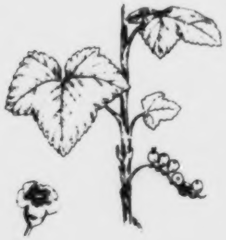
Ribes lacustre



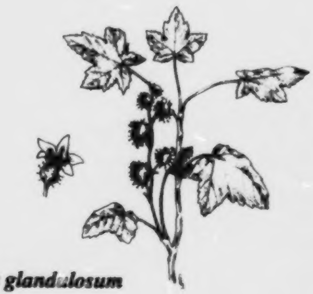
Ribes bracteosum



Ribes oxyacanthoides



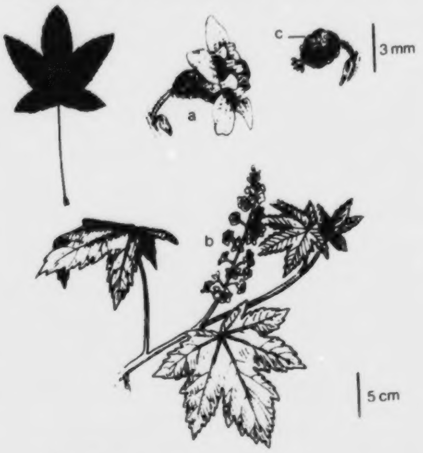
Ribes triste



Ribes glandulosum

Shrubs and Small Trees

Grossulariaceae (Currant and Gooseberry family)



Ribes bracteosum

(Stink currant)

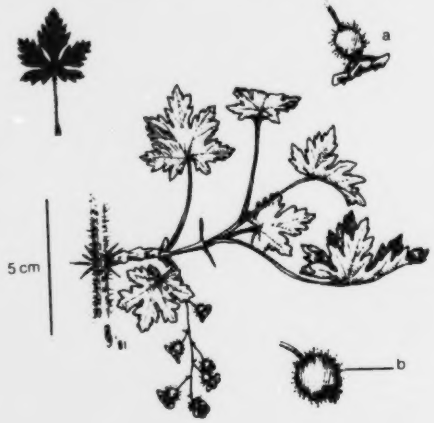
SHRUB, 1.5 - 3 m tall; erect, often scraggly, ***unarmed,*** with yellowish crystalline glands throughout and with a ***sweet disagreeable odor.***

LEAVES — "maple leaf"-shaped, ***5-7 lobed,*** lower surface paler mostly ***without hairs,*** 1-2 serrate.

FLOWERS — (a) ***numerous (20-30)***, in ascending erect cluster (b) 15-30 cm long; sepals brownish-purple to greenish; ***petals white.***

FRUIT — black berries (c), with a whitish bloom and dark glands; disagreeable but considered palatable by some.

HABITAT — streambanks and moist woods; typically coastal.



Ribes lacustre

(Prickly gooseberry)

SHRUB, erect to spreading, armed with numerous sharp prickles and larger nodal spines.

LEAVES — somewhat "maple leaf"-shaped, mostly 5-lobed, 1-2 coarsely serrated, ***heart-shaped base.***

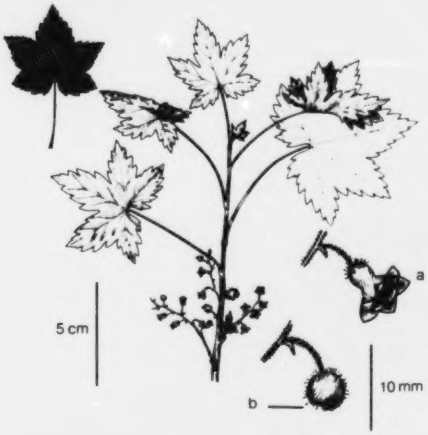
FLOWERS — (a) ***shallow saucer-shaped, in drooping cluster of 7-15 flowers, petals reddish.***

FRUIT — ***dark purple berries with stalked glands***(b); palatable and with an agreeable flavour.

HABITAT — moist woods and streambanks to drier forest slopes or subalpine ridges; throughout the province. Good indicator of Devil's club-oak fern or Devil's club-lady-fern sites in the ICH.

Shrubs and Small Trees

Grossulariaceae (Currant and Gooseberry family)



Ribes laxiflorum

(Trailing black currant)

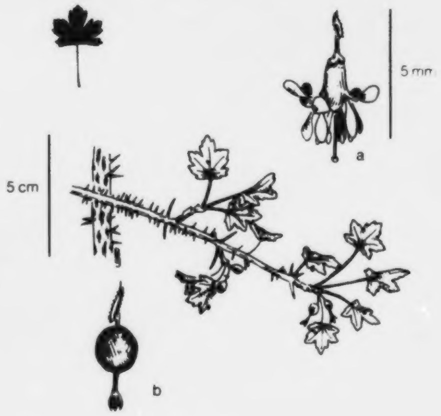
SHRUB, less than 1 m high, unarmed.

LEAVES — glabrous above, paler, somewhat hairy and glandular beneath; ***heart-shaped base;*** usually ***5-lobed,*** doubly round-toothed.

FLOWERS — saucer-shaped (a), 8-18-flowered, erect inflorescence, abundantly hairy, glandular throughout; ***petals red to purplish.***

FRUIT — berries, covered with fine waxy powder, purplish-black, somewhat spherical, glandular bristly (b).

HABITAT — wet coastal woods to montane slopes.



Ribes oxyacanthoides

(Northern smooth gooseberry)

SHRUB, 0.6 - 1.5 m tall; branches bristly, 1-3 nodal spines up to 1 cm long.

LEAVES — somewhat "maple-leaf"-shaped, ***straight base,*** 5-lobed, irregularly round-toothed, somewhat hairy, ***usually strongly glandular-hairy beneath.***

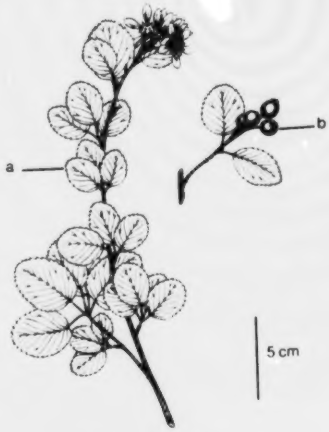
FLOWERS — (a) ***1-2-flowered inflorescence, petals and sepals greenish-yellow to whitish.***

FRUIT — berries somewhat spherical, ***deep bluish-purple, smooth*** (b), palatable.

HABITAT — dry and exposed sites at lower elevations.

Shrubs and Small Trees

Rosaceae (Rose family)



Amelanchier alnifolia

(Serviceberry)

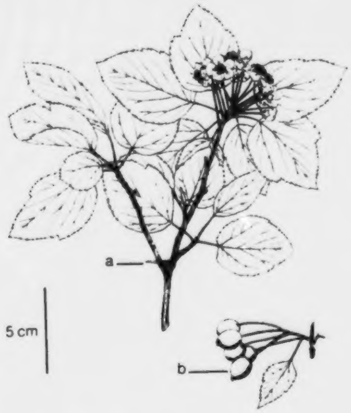
SHRUB TO SMALL TREE, to 7 m tall; stem smooth, with dark grey to reddish bark.

LEAVES — ***round*** with margins serrated on top half mostly (a).

FLOWERS — white, abundant, in a short leafy cluster, usually 3-20.

FRUIT — a berry-like pome (b), ***purple to nearly black*** with a white bloom; edible, ***sweet.***

HABITAT — moist or dry forest and open hillsides in well drained soils. Found in both coastal and interior locations. Very common in ICHg3.



Malus fusca

(Western crab-apple)

SHRUB TO SMALL TREE, 3-12 m tall, often with ***thorn-like spur shoots*** (a).

LEAVES — having long petioles; egg-shaped to ***oblong or lance-shaped,*** gradually tapered to a sharp point, sharply toothed, often irregularly lobed; deep green and glabrous or hairy on upper surface, paler and somewhat crisply hairy to woolly beneath.

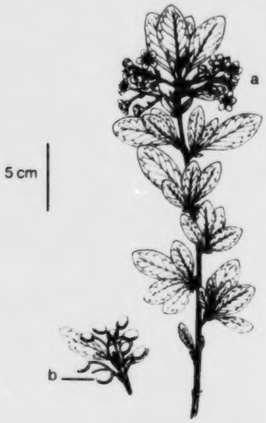
FLOWERS — showy, white, borne on long flower stems, mostly 5-12 in a flat-topped inflorescence; stamens about 20.

FRUIT — egg-shaped (b), ***yellow to purplish-red,*** edible, ***sour.***

HABITAT — mainly in coastal and insular woodlands; moist woods, streambanks, swamps and bogs to open canyons and into foothills of mountains. Found in ICH in the Nass valley.

Shrubs and Small Trees

Rosaceae (Rose family)



Prunus emarginata

(Bitter cherry)

SHRUB TO SMALL TREE, erect, 2-15 m tall.

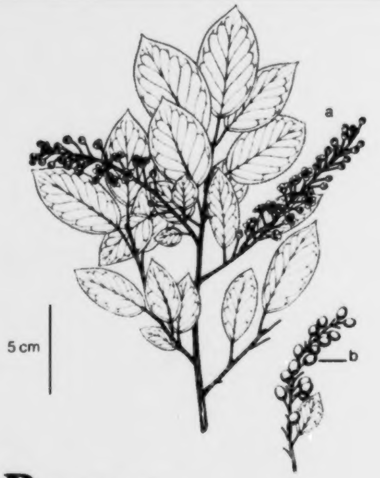
LEAVES — elliptic, oblong, egg-shaped or broadest above middle and tapering to base, rounded to blunt at tip, triangular or acute at base, ***round-toothed to serrulate.***

FLOWERS — ***flat-topped inflorescence*** of usually 5-8 white flowers (a).

FRUIT — drupe (b), red to almost black, very bitter.

HABITAT — stream sides, moist open woods, damp mountain slopes; in mountains at medium elevations, mostly west of coast mountains.

NOTE — *P. pensylvanica* (Pin cherry) is also present in the Skeena area. This species differs from *P. emarginata* and *P. virginiana* in having lance-shaped leaves and a flat-topped inflorescence.



Prunus virginiana

(Choke cherry)

SHRUB, (sometimes a tree), up to 10 m tall.

LEAVES — thin, elliptic to oblong or egg-shaped, sharp pointed at tip, blunt at base; ***finely and sharply toothed;*** bright green and glabrous above, paler beneath.

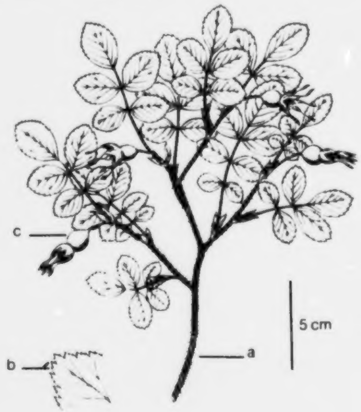
FLOWERS — white and numerous in ***elongated terminal inflorescence*** (a) (raceme).

FRUIT — drupe (b) red to purple or black, egg-shaped, sweet but astringent; makes excellent jellies.

HABITAT — edge of woods and thickets, often on dry and exposed sites. Absent from CWHf, especially common in ICHg3.

Shrubs and Small Trees

Rosaceae (Rose family)



Rosa acicularis ssp. *sayi*

(Prickly rose)

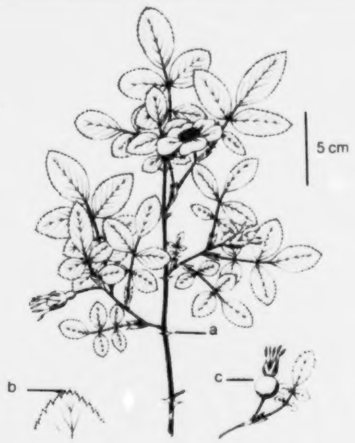
SHRUB to 1 m tall; stems usually ***densely covered with numerous straight, bristly prickles*** (a).

LEAVES — 5-7 foliate, coarsely double serrated (b).

FLOWERS — mostly single on short lateral branches; petals pink to rose.

FRUIT — ***pear-shaped hips*** (c), purplish 1-2 cm long.

HABITAT — open woods, hills and banks, typically an interior species.



Rosa nutkana

(Nootka rose)

SHRUB to 2.5 m tall; with often stout, erect stems, ***armed with a large pair of straight to curved flattened, infrastipular thorns*** (a).

LEAVES — 5-7 foliate, singly or doubly serrated (b), green above, paler beneath.

FLOWERS — solitary, occasionally 2-3; petals pinkish to rose.

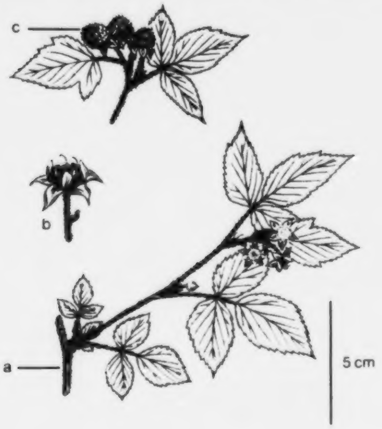
FRUIT — ***hips*** (c) ***more or less spherical,*** purplish red. Rosehips provide a rich source of vitamin C, and can be used in jellies and tea.

HABITAT — thickets and open woods, both on the coast and the interior. Less common in the interior than *R. acicularis*.

NOTE — Intergrades appear between *Rosa acicularis* and *R. nutkana*. *Rosa woodsii* (Woods' rose) may additionally be present in the Skeena area; this species differs from *R. acicularis* and *R. nutkana* in having flowers mostly in flat-topped inflorescences.

Shrubs and Small Trees

Rosaceae (Rose family)



Rubus idaeus ssp. *melanolasius*

(American red raspberry)

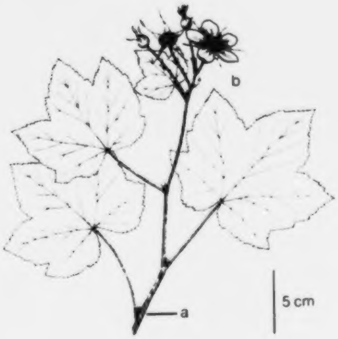
SHRUB, an erect perennial to 3 m tall; stems (canes) upright, ***almost unarmed to prickly bristly*** (a); shredding bark yellow to cinnamon brown.

LEAVES — of first year canes with 3-7 leaflets, serrated and pointed; of flowering canes mostly 3-foliate.

FLOWERS — (b) drooping or in small ***grape-like clusters, petals white.***

FRUIT — drupelets (c) red, rarely yellow, falling intact from the dry receptacle; smaller than domestic variety but better flavour.

HABITAT — streambanks, open woods, clearings; typically an interior species. Fairly common toward interior in CWHf.



Rubus parviflorus ssp. *parviflorus*

(Thimbleberry)

SHRUB, erect to 2.5 m tall, with shredding bark; ***young growth glandular-hairy;*** unarmed (a), with several stems.

LEAVES — large, soft, maple-like, 3-7 lobed, serrated, with long petioles.

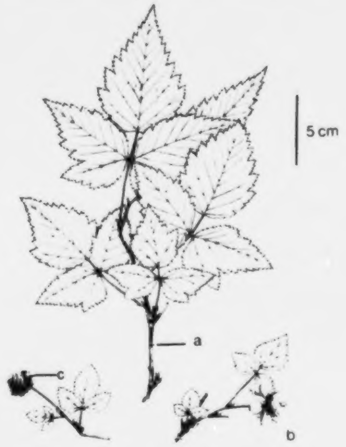
FLOWERS — ***large, 3-11 in a long peduncled cluster*** (b), petals white.

FRUIT — ***red, hairy drupelets,*** juicy but rather insipid in taste.

HABITAT — in open woods, clearings, roadsides, and shorelines, forming dense thickets; wide-spread in the lower 2/3 of the province. In CWHf more common in disturbed areas than mature forest. In ICH this species is fairly widespread in forested ecosystem associations.

Shrubs and Small Trees

Rosaceae (Rose family)



Rubus spectabilis

(Salmonberry)

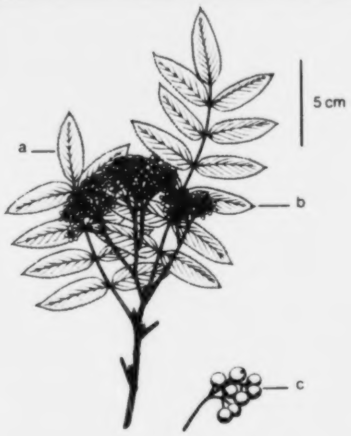
SHRUB, thicket-forming, up to 4 m tall; stem erect to arching, ***strongly bristly below, less so above*** (a); shredding bark brown.

LEAVES — 3-foliate, thin, double-toothed, pointed.

FLOWERS — usually ***solitary*** (b), sometimes 2-4 on short leafy branches; ***petals reddish-purple, to pink.***

FRUIT — drupelets (c) yellow or reddish, more or less coherent; juicy, insipid, and quite seedy.

HABITAT — damp woods, swamps, and banks of streams, at low elevations. Indicates seepage or alluvial sites. Generally absent from ICH and SBS. Typically coastal.



Sorbus scopulina

(Cascade mountain-ash)

SHRUB, often forming clumps; to 5 m tall, winter buds and young growth without or with few greyish hairs.

LEAVES — ***9-13 leaflets, sharply serrated nearly entire length*** (a), often ***sharp-pointed*** at the tip (b).

FLOWERS — white, in a ***flat-topped cluster with up to 200 flowers.***

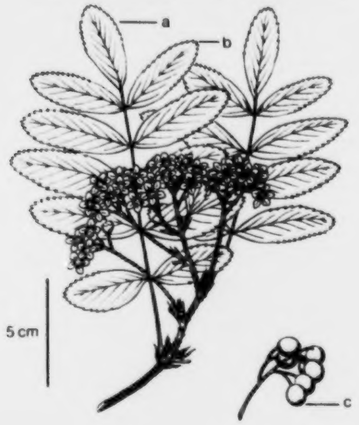
FRUIT — berry-like (c), orange to scarlet, without a bloom; taste is similar to *S. sitchensis*.

HABITAT — low montane to alpine regions. Best vigour in open sites, but common with low vigour in closed, coniferous stands.

NOTE — Intermediates between *Sorbus sitchensis* and *S. scopulina*.

Shrubs and Small Trees

Rosaceae (Rose family)



Sorbus sitchensis

(Sitka mountain-ash)

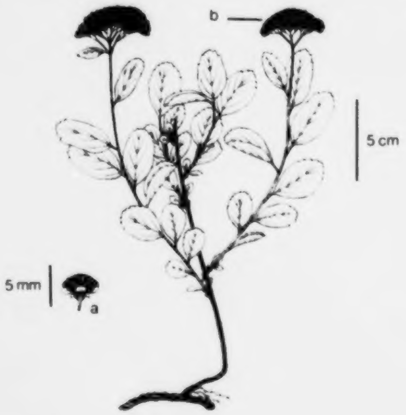
SHRUB, with several erect stems; to 4 m tall, winter buds and young growth with ***rusty hairs.***

LEAVES — ***7-11 leaflets, serrated for not more than 3/4 of their length*** (a), ***blunt and rounded*** at the top (b).

FLOWERS — white, in a ***round-topped*** cluster of ***up to 80 flowers.***

FRUIT — red, berry-like (c), with a whitish bloom; edible but extremely tart and bitter; much favoured by some birds.

HABITAT — open woods and clearings, montane to subalpine regions. Common with low vigour in coniferous stands.



Spiraea betulifolia ssp. *lucida*

(Shiny-leaf spirea)

SHRUB, strongly rhizomatous, mostly 25-60 cm tall; ***not hairy.***

LEAVES — egg-shaped-oblong or egg-shaped but wider toward the tip; usually coarsely, doubly toothed; dark green on upper surface, pale on lower surface.

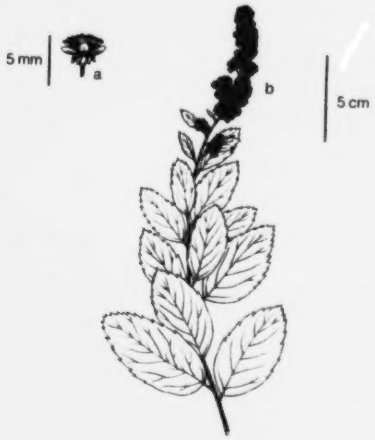
FLOWERS — (a) in a ***nearly flat-topped inflorescence*** (b), ***petals dull white,*** often with pale pinkish or lavender tinge.

FRUIT — a follicle.

HABITAT — streambanks, lake margins, open to wooded valleys and hillsides, often in rock slides; from near sea level up to 3050-3350 m elevation. Typically interior, absent from CCPH and most of CWHf and ICHgl.

Shrubs and Small Trees

Rosaceae (Rose family)



Spiraea douglasii ssp. *menziesii*

(Subalpine spirea)

SHRUB, erect much-branched to 2 m tall, with ***young growth woolly.***

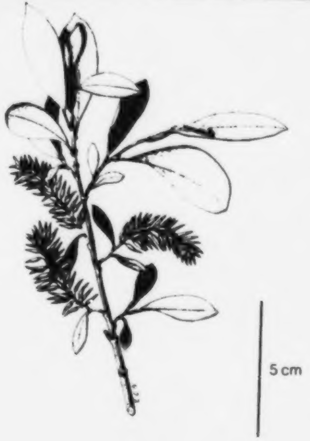
LEAVES — oblong to oval, serrated above the middle, with dense small white hairs on the underside.

FLOWERS — (a) in a much ***elongated, narrow and densely compacted cluster*** (b) which is several times longer than it is broad; ***petals pink to deep rose.***

FRUIT — a follicle.

HABITAT — wet places at edges of lake and lakes and streams, in swamps and bog edges; south of Lat. 56, coast and interior. Occurs in some ICH spruce-pine seral stands.

Salicaceae (Willow family)



Salix bebbiana

(Bebb's willow)

SHRUB OR SMALL TREE, up to 10 m tall.

BRANCHES - young twigs thin to densely hairy.

LEAVES — mostly elliptic to sometimes narrowly elliptic-egg-shaped, triangular at base, thin, usually entire, ***deep green and eventually smooth above, covered in fine silky hairs.***

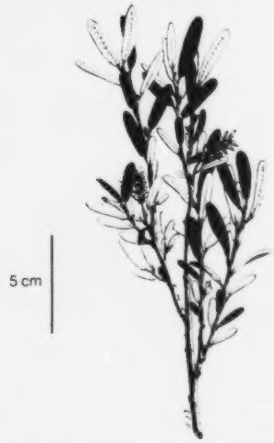
FRUIT — a capsule, 5-9 mm long, usually thinly short-hairy, on stipe 2 m - 5 mm long.

HABITAT — From lowlands to moderate elevations in mountains; common species of upland forests in the interior ICH, SBS and ESSF zones. Not found in the CWH.

NOTE — In *S. scouleriana* the catkins appear before the leaves, in *S. bebbiana* the catkins appear at the same time as the leaves.

Shrubs and Small Trees

Salicaceae (Willow family)



Salix pedicellaris

(Glaucous bog willow)

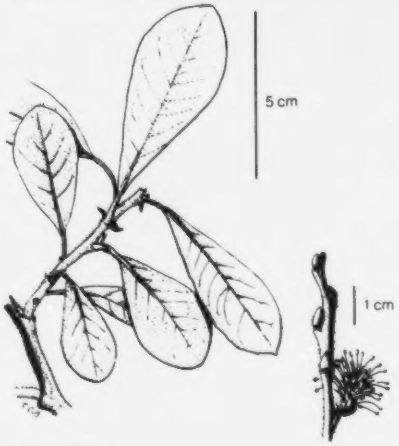
SHRUB, sparingly branched 0.4-1.2 m tall, lower stem rooting in moss.

BRANCHES — ***twigs dark, without hairs.***

LEAVES — without hairs, very pale and covered in fine, waxy powder beneath, entire, elliptic to egg-shaped or lance-shaped but broadest at or above middle and tapering to base, ***overall appearance bluish-green.***

FRUIT — a capsule, 5 - 10 mm long, on stipe 2 - 4 mm long.

HABITAT — peat bogs and boggy meadows of interior zones. Not found in the CWH, CCPH, ICHg3 black spruce ecosystems.



Salix scouleriana

(Scouler's willow)

SHRUB OR SMALL TREE, 2-12 m tall.

BRANCHES — twigs sparsely to densely grey-hairy.

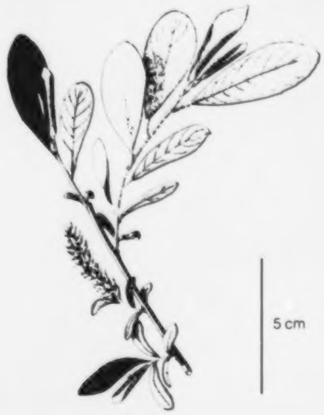
LEAVES — ***dark green and without hairs above, covered underneath in fine waxy powder and sparsely red hairy;*** straight hairs pressed to leaf's underside, entire, usually broadly egg-shaped to lance-shaped but broadest above the middle and tapering to the triangular-shaped base, tip usually rounded.

FRUIT — a capsule, 5-8 mm long, short-hairy, on stipe to 1 mm long.

HABITAT — streambanks, along sloughs and ditches, common on upland sites; from lowlands to moderate elevations in mountains. Most common willow on the coast CWHf, somewhat less common inland ICHg.

Shrubs and Small Trees

Salicaceae (Willow family)



Salix sitchensis

(Sitka willow)

SHRUB OR SMALL TREE 2-6 m tall.

BRANCHES — ***twigs covered in short, matted, velvety hairs.***

LEAVES — gray or white with dense hairs beneath, greener and more thinly hairy above; margin entire or with minute glandular teeth; typically somewhat egg-shaped or broadly lance-shaped but broadest above middle and tapering to base.

FRUIT — a capsule 3.5 - 5 mm long, densely short-hairy with shiny hairs, on stipe 0.5 - 1.4 mm long.

HABITAT — from lowlands to moderate elevations; usually found on streambanks, riverbanks, lake shores, moist woods or dry rocky situations.

NOTE — Additional *Salix* species common in the Skeena area include *Salix arctica* (Arctic willow) and *Salix reticulata* (Net-leaved dwarf willow). Both species are dwarf and are generally found in alpine tundra.

Club-Mosses

Lycopodiaceae (Club-moss family)

KEY TO THE COMMON CLUB-MOSSES (Lycopodiaceae)

Adapted from Taylor, 1973

NOTE — club-mosses are not true mosses, they are spore producing vascular plants like ferns.

1a. Sporangia in the axils (angle between the leaf and stem) of ordinary green leaves; not forming definite cones; broad and flat gemmae (reproductive buds) often borne in the upper axils .... ***Huperzia selago***

1b. Sporangia in clearly differentiated terminal cones; gemmae lacking.
  2a. Sterile branches creeping, never ascending; cones solitary at the end of a slender branch growing directly from the creeping base. Sporophylls green, essentially like foliage leaves .... *Lycopodiella inundata*

  2b. Sterile branches erect or strongly ascending from the horizontal, superficial or underground stems; cones with yellowish, scale-like sporophylls, borne on erect leafy branches.
    3a. Ascending branches simple or few-forked; leaves uniform, spirally arranged in several ranks, with a slender awl-shaped (narrow and tapering from base to a fine point) to hair-like tips; lowermost sporophylls with irregularly notched margins to fringed margins with awl-shaped bristle-like to hair-like tips.
      4a. One cone, sessile at the ends of densely leafy branches; sporophylls with slightly scalloped, irregularly notched margins, the lower one, (as well as the leaves) with awl-shaped bristle-like teeth .... *Lycopodium annotinum*

      4b. Cones 1-6, stalked on leafy-bracted stalks; sporophylls with fringed bristle-like margins, the lower one (as well as the leaves) long and tapering to a soft tip .... *Lycopodium clavatum*

    3b. Ascending branches freely forking, tree-like, bushy-branched or fan-like; sporophylls entire or with slightly irregularly notched margins with long drawn-out to awl-shaped tips.
      5a. Ascending branches erect and tree-like, with very numerous, crowded ascending or recurved branchlets; leaves spirally to somewhat dorsiventrally (with distinct upper and lower surfaces, on front and back) arranged in 6 to 8 ranks, the free portion 3-5 mm long; cones sessile at tips of unmodified branches ...... *Lycopodium obscurum*

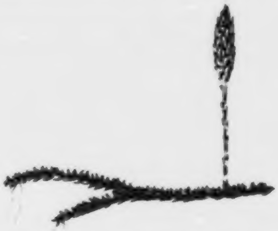
      5b. Ascending branches tufted, bushy or fan-like branchlets flattened with minute leaves in 4 ranks, or if circular the leaves in 5 ranks; cones on stalk-like branches.
        6a. Sterile branches circular (cylindric and usually tapering); leaves mostly in 5 ranks, all alike, the free, slenderly awl-shaped tips no longer than the base to which it is fused .... *Lycopodium sitchense*

        6b. Sterile branchlets flattened; leaves 4 ranks, those of the upper and lower faces unlike the marginal ones, the latter clearly decurrent (extending down and adnate to the stem).
          7a. Cones sessile, usually less than 2 cm long; marginal leaves deltoid-ovate-shaped to deltoid-lanceolate, sickle-shaped, free tips almost equalling the decurrent base; leaves of the lower surface trowel-shaped .... ***Lycopodium alpinum***

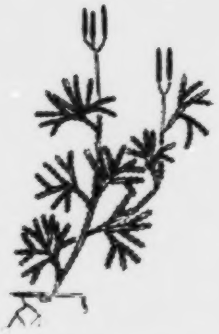
          7b. Cones usually stalked and more than 2 cm long; marginal leaves lance or deltoid awl-shaped, free tips much shorter than the decurrent base, leaves of the lower surface awl-shaped and lying flat .... *Lycopodium complanatum*

Club-Mosses

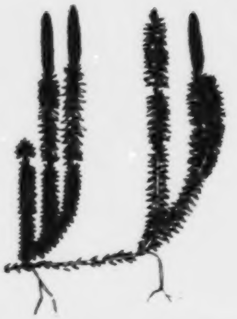
Lycopodiaceae (Club-moss family)



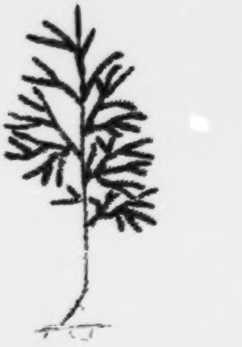
Lycopodiella inundata



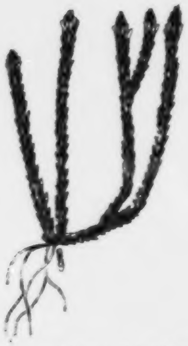
Lycopodium complanatum



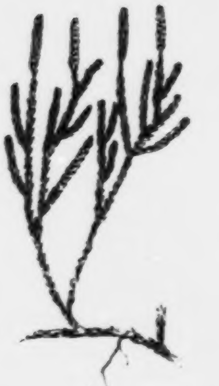
Lycopodium annotinum



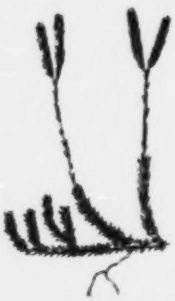
Lycopodium obscurum



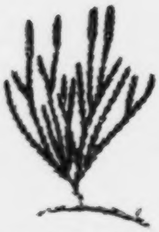
Huperzia selago



Lycopodium sitchense



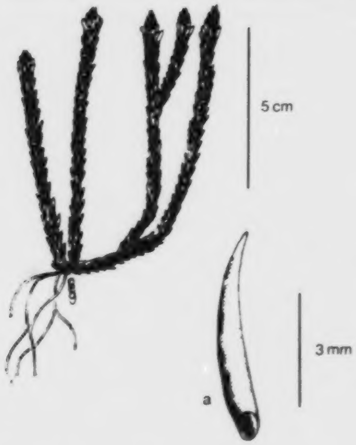
Lycopodium clavatum



Lycopodium alpinum

Club-Mosses

Lycopodiaceae (Club-moss family)



Huperzia selago

(Mountain club-moss)

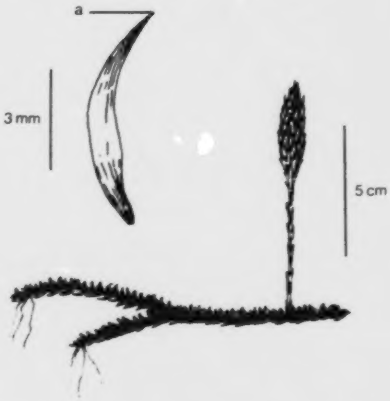
HORIZONTAL STEM — short, withering yet persistent.

ERECT STEM — 6-22 cm tall, several times dichotomously branched, forming more or less flat-topped tufts.

LEAVES — lance-shaped (a).

CONES — ***not obvious;*** sporophylls like the vegetative leaves, borne in regularly alternating zones, each year's growth having a basal sterile zone and an upper fertile zone.

HABITAT — *Sphagnum* bogs, shaded ledges and acid rocks, in arctic and alpine regions, subalpine forests.



Lycopodiella inundata

(Bog club-moss)

HORIZONTAL STEM — above ground, prostrate or arching, irregularly rooting, leafy, strongly anchored in the ground.

ERECT STEM — scattered, leafy, up to 10 cm tall.

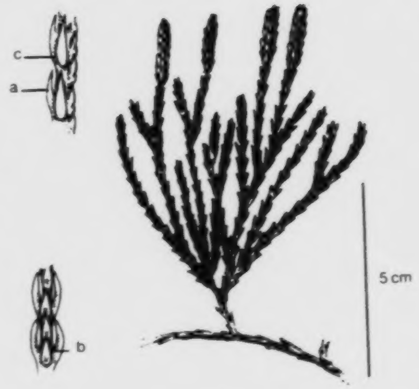
LEAVES — crowded, arranged in 8-10 ranks, with a soft needle-shaped tip (a).

CONES — ***terminal, single, sessile,*** usually only one per plant.

HABITAT — *Sphagnum* bogs, damp sandy slopes or shores of ponds and lakes.

Club-Mosses

Lycopodiaceae (Club-moss family)



Lycopodium alpinum

(Alpine club-moss)

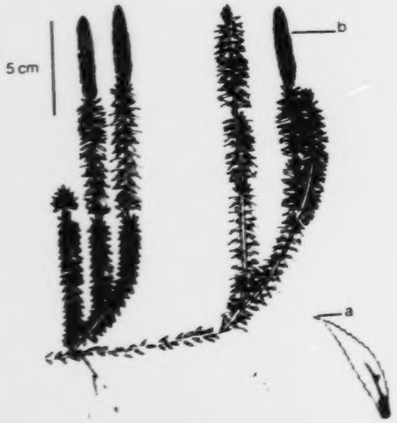
HORIZONTAL STEM — creeping near surface of ground.

ERECT STEM — whitish, tufted, several times dichotomously branched, to 8 cm tall somewhat flattened.

LEAVES — 4-ranked; the dorsal ones lance to awl-shaped (a), the ventral shorter, trowel-shaped (b), marginal leaves lance-shaped, appearing concave (c).

CONES — ***stalkless, solitary.***

HABITAT — alpine and subalpine meadows, cool woods at high altitudes. In ESSF and MH zones, frequent in rocky alpine heath communities.



Lycopodium annotinum

(Stiff club-moss)

HORIZONTAL STEM — trailing on or near surface, prostrate or sometimes arching, elongate, irregularly rooting, leafy; rhizomes shallow.

ERECT STEM — simple or once or twice forked, leafy.

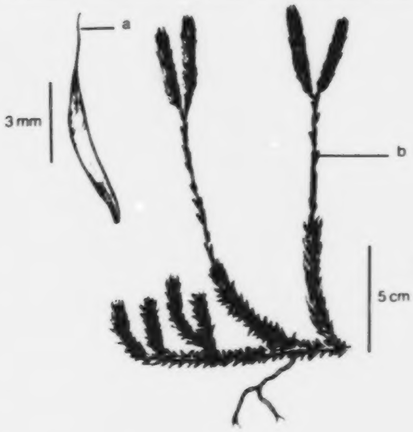
LEAVES — firm, shiny, with a short, ***stiff pointed tip*** (a), 8-ranked, tending to be whorl-like, often spreading.

CONES — ***stalkless*** (b), one per branch, borne at the tips of some or all the erect stems, clearly differentiated from stem.

HABITAT — acid soils of wet woods or bog margins, occasionally on more open, rocky slopes below timberline. Very common in mesic-subhygric ecosystems throughout the Skeena area.

Club-Mosses

Lycopodiaceae (Club-moss family)



Lycopodium clavatum

(Running club-moss)

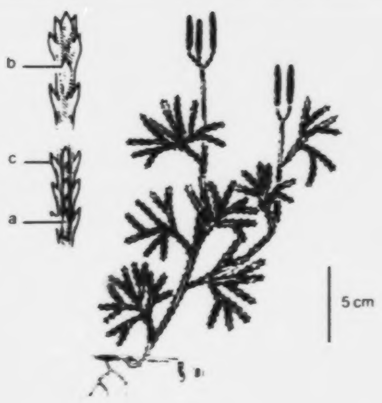
HORIZONTAL STEM — on surface of ground, prostrate or arching, elongate, irregularly rooting, leafy.

ERECT STEM — simple at first, then dichotomously forked, erect.

LEAVES — bright green, ***tipped with a soft white bristle*** (a), long and narrow, somewhat lance-shaped.

CONES — ***on long stalk*** (b), one to five per stalk.

HABITAT — can occur in dense woods and bogs, mesic to dry woods and rocky places. Very common in CWHf, less frequent in interior subzones.



Lycopodium complanatum

(Ground-cedar)

HORIZONTAL STEM — wide creeping, on or near ground surface.

ERECT STEM — much branched, whitish-green, to 35 cm tall, noticeably flattened; ***foliage similar to a cedar tree.***

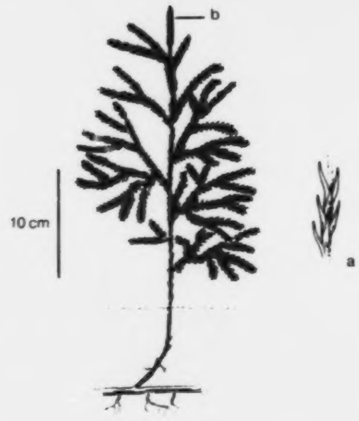
LEAVES — the dorsal ones (a) large with an elevated base, the ventral ones (b) awl-shaped, small (1 mm or less), marginal leaves lance to awl-shaped (c).

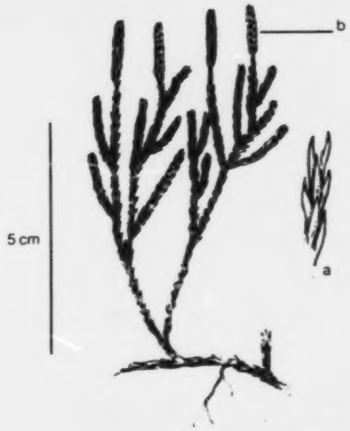
CONES — ***usually more than one on forked stalks.***

HABITAT — woods and rocky hillsides in acid soils. Widely spread throughout CWH and ICH zones.

Club-Mosses

Lycopodiaceae (Club-moss family)





Lycopodium obscurum

(Ground-pine)

HORIZONTAL STEM — rhizome deep below the ground surface.

ERECT STEM — ***unbranched near base***, bushy-forked above, "tree-like".

LEAVES — numerous, sharp-pointed, ***6-ranked*** (a).

CONES — solitary, stalkless (b).

HABITAT — acid soils of clearings, damp woods and bog margins. Less common than *L. annotinum* or *L. clavatum*, but scattered throughout the Skeena area.

Lycopodium sitchense var. *sitchense*

(Alaska club-moss)

HORIZONTAL STEM — near ground surface.

ERECT STEM — ***several times dichotomously branched,*** forming compact "fan-like" tufts.

LEAVES — long, sharp-pointed, ***5-6 ranked*** (a).

CONES — solitary (b) at end of short, stalk-like branches.

HABITAT — subalpine woods, alpine meadows, and barren slopes. At high elevations in the Skeena area.

Horsetails

Equisetaceae (Horsetail family)

KEY TO THE COMMON HORSETAILS (*Equisetum* ssp.)

Adapted from Taylor, 1956

1a. Cones long-stalked, rounded at the top; stems annual, sterile stems usually with regularly whorled branches.

2a. Fertile (coning) and sterile stems not alike; first internode of the primary branches considerably longer than the stem-sheath; coning in spring.

3a. Coning stem somewhat fleshy, whitish or in shades of pink and brown, soon withering, usually unbranched; branches on sterile stems usually not again branched, teeth of branch-sheaths triangular-lanceolate or narrower .... *Equisetum arvense*

3b. Coning stems becoming green and branched, persistent, although cones and tips of stems soon wither; branches of sterile stems rebranched, but if not so, teeth of branch sheaths equal-sided-triangle-shaped.

4a. Stem-sheaths chestnut brown, flaring upwards, teeth cohering in several broad lobes; branches usually rebranched .... *E. sylvaticum*

4b. Stem-sheaths green, rather tight, teeth white margined, free or nearly so; branches usually unbranched .... *E. pratense*

2b. Fertile and sterile stems similar, green; first internode of the primary branches equalling or mostly shorter than the stem-sheath, or the stem unbranched; coning in summer.

5a. Central cavity of main stem small, about 1/6 the diameter of the stem; vallecular (outer, related to grooves) cavities nearly as large; stem-sheath, mostly 10-14 mm long, loose, expanding upwards, with 10 usually white margined teeth ..... *E. palustre*

5b. Central cavity larger, 1/2 to 4/5 the diameter of the stem; vallecular cavities much smaller or wanting; stem-sheaths 5-10 mm long, teeth scarcely white-margined .... *E. fluviatile*

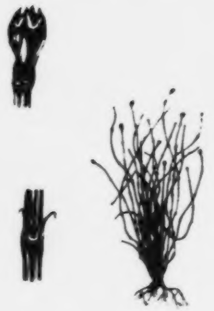
1b. Cones short-stalked, the stalk not, or only slightly exceeding the subtending sheath, cone sharp and short but not stiff pointed; stems evergreen, usually unbranched or at least without regular whorls or branches.

6a. Stems lacking a central cavity; vallecular cavities usually 3; stems low and flexuous .... *E. scirpoides*

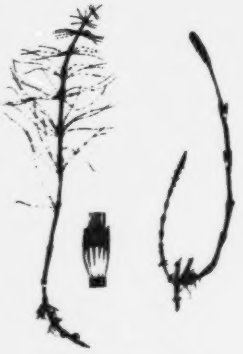
6b. Stems with a central cavity; vallecular cavities 5 or more .... *E. hyemale*

Horsetails

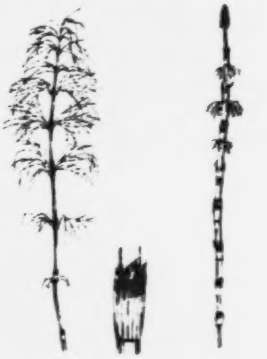
Equistaceace (Horsetail Family)



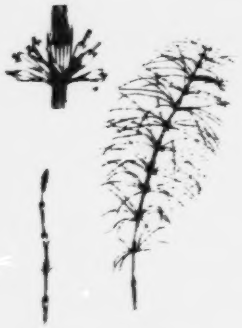
Equisetum scirpoides



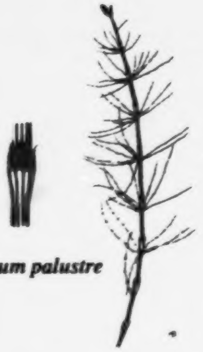
Equisetum arvense



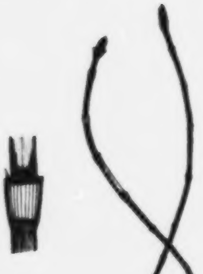
Equisetum sylvaticum



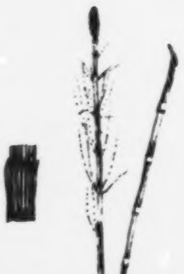
Equisetum pratense



Equisetum palustre



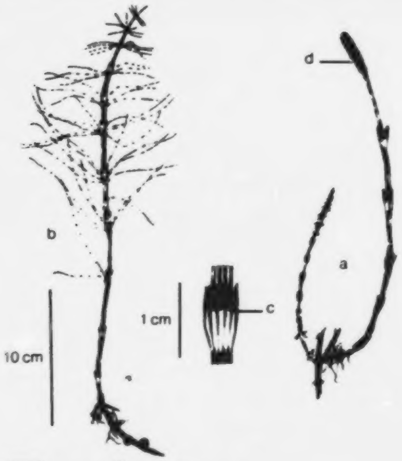
Equisetum hyemale



Equisetum fluviatile

Horsetails

Equisetaceae (Horsetail family)



Equisetum arvense

(Common horsetail)

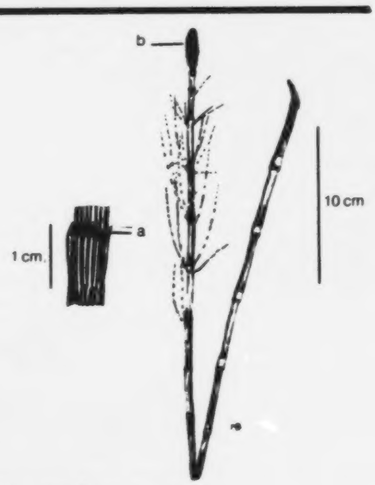
RHIZOME — extensively creeping and branched, dark-felted, tuber-bearing; fertile and sterile stems not alike, annual, erect.

FERTILE STEM — (a) unbranched, usually thick and succulent, brownish to whitish, soon withering; sheaths with 8-12 large, brown, pointed teeth.

STERILE STEM — (b) solitary or clustered, green slender, much branched, usually with 10-12 ridges; sheaths with about 12 sharp lance-shaped brownish teeth; branch sheaths (c) closest to the stem are large and obvious, while others are slightly flaring, somewhat appressed, and 4-6 toothed; branches numerous in dense, regular whorls, ascending or spreading, mostly unbranched, 3-4 angled, coarser than *E. pratense;* central cavity present.

CONES — (d) long-stalked, blunt-tipped.

HABITAT — very tolerant of soil conditions, often weedy moist woods, meadows, banks, roadsides and railway embankments; most common horsetail in the Skeena area.



Equisetum fluviatile

(Swamp horsetail)

RHIZOMES — widely creeping, shiny, often reddish.

STEMS — annual, all alike, base reddish, shallowly 9 to 25 ridged, with large central cavity; branches none to many and whorled.

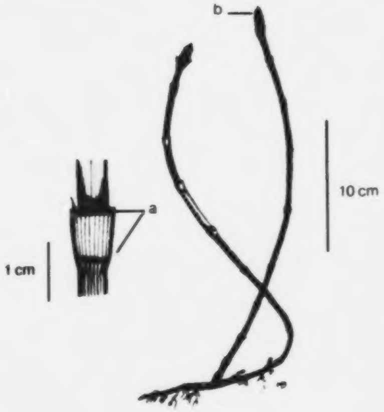
SHEATHS — green with persistent, narrow, pointed, dark brown to blackish teeth (a).

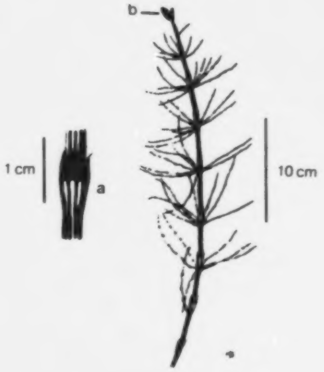
CONES — (b) blunt-tipped short-stalked, deciduous.

HABITAT — shallow water at edge of lakes, ponds in ditches or marshy places, in bogs, along muddy shores; from low to moderate elevations.

Horsetails

Equisetaceae (Horsetail family)





Equisetum hyemale ssp. *affine*

(Scouring-rush)

RHIZOMES — widely creeping, slender, blackish.

STEMS — all alike, solitary or clustered, whitish-green, ***evergreen,*** mostly unbranched, 18-40 ridges, with central cavity.

SHEATHS — with black band at tip and at base (a), ashy gray between bands when mature; dark brown teeth slender, thin, dry, chaffy, mostly deciduous but some are irregularly persistent.

CONES — pointed (b), short-stalked.

HABITAT — alluvial sites, often in partial shade, streambanks, commonly in moist or wet places; from low to moderate elevations.

Equisetum palustre

(Marsh horsetail)

RHIZOMES — without hairs, shining black, creeping, somewhat branched, deeply subterranean.

STEMS — annual, all alike, up to 60 cm tall with small central cavity; branches few and irregular to numerous.

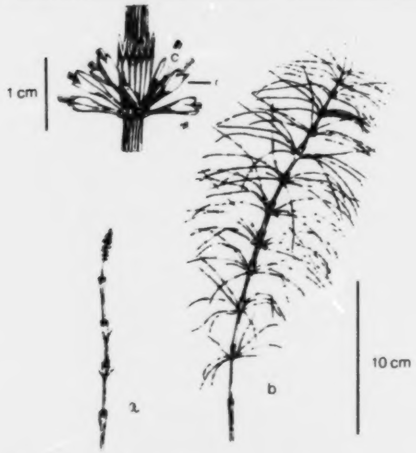
SHEATHS — (a) green, gradually widened upwards teeth with blackish-brown centre and broad white margin.

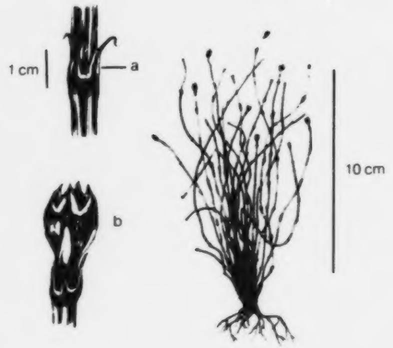
CONES — (b) borne at tip of main stem, long-stalked, blunt deciduous.

HABITAT — shallow water, wet marshy places and meadows, streambanks; from lowlands to moderate elevations in mountains.

Horsetails

Equisetaceae (Horsetail family)





Equisetum pratense

(Meadow horsetail)

RHIZOME — black, creeping; fertile and sterile stems not alike, annual, erect.

FERTILE STEM — (a) usually pale and unbranched initially, later developing whorls of green, unbranched branches; sheaths pale, teeth slender, brown, white-margined.

STERILE STEM — (b) mostly solitary, slender, whitish-green, with 10-18 ridges; sheaths pale green with slender, brown, white-margined, triangular teeth; ***branch sheaths*** (c) ***closest to the stem are quite small and inconspicuous,*** while others are loose, flaring, and 3-toothed; branches numerous, regularly whorled, very slender, 3-angled, not branched; central cavity present.

CONES — long-stalked, blunt-tipped, and soon withering.

HABITAT — grassy banks, edges of damp woods, streambanks, thickets; generally indicates nutritionally rich, moist sites with neutral pH.

Equisetum scirpoides

(Dwarf scouring-rush)

RHIZOMES — creeping, shallow, thread-like, widely branched.

STEMS — all alike, evergreen, small and slender, without central cavity.

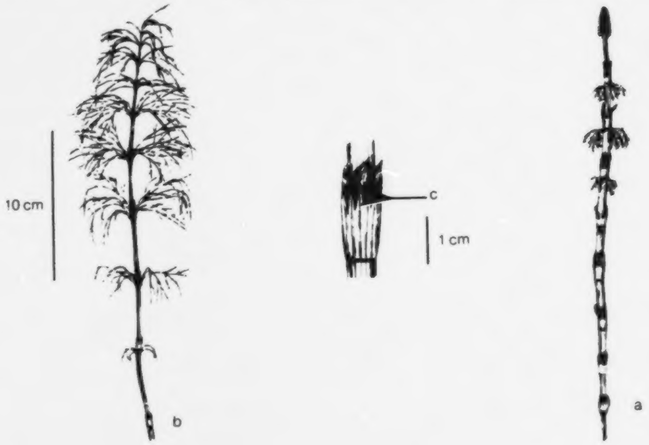
SHEATHS — (a) enlarged and darkened upwards, short, with broad, black band above green base; teeth 3, thin, usually with thin transparent margins and a darker middle band .

CONES — (b) black, sharp-pointed, nearly stalkless, small.

HABITAT — open springy banks; damp coniferous woods, thickets and often in swampy places.

Horsetails

Equisetaceae (Horsetail family)



Equisetum sylvaticum

(Wood horsetail)

RHIZOME — creeping, deep in ground; fertile and sterile stems not alike; annual, erect.

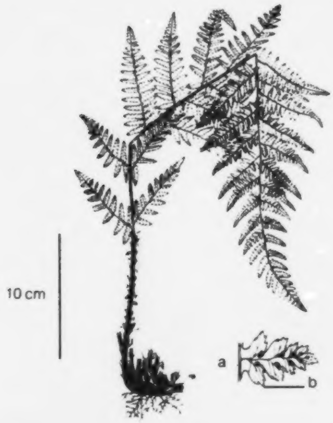
FERTILE STEM — (a) shorter, green to flesh-coloured initially without branches but later producing whorls of green, compound branches; commonly with longer sheaths and teeth than sterile stems.

STERILE STEM — (b) green, mostly solitary, 10-18 ridged; sheaths green at base chestnut-brown above, teeth (c) persistant and irregularly coherent into 3-5 broad, brown lobes; branches numerous, regularly whorled, drooping at the ends, mostly compound branched, central cavity present.

CONES — blunt-tipped, long-stalked, soon withering.

HABITAT — cool, moist, somewhat open woods, in mildly acidic soils, also in wet meadows, marshes and on streambanks.

Ferns



Athyrium filix-femina ssp. *cyclosorum*

(Lady-fern)

RHIZOME — stout, erect, ascending and chaffy.

FRONDS — to 2 m tall, erect, spreading.

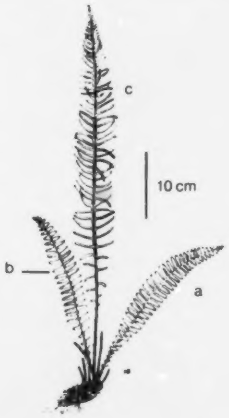
STIPE — short, fragile, straw-coloured, scaly at dark base.

BLADE — narrowly to broad lance-shaped tapering at both ends.

PINNAE — (a) basal ones increasingly more symmetrical.

PINNULES — serrated, with rounded tip (b).

HABITAT — moist woods, meadows and damp shady places. Indicator of rich hygric-subhygric sites in CWHf and ICHg 2 & 3. Infrequent in SBS and not found in ICHg1.



Blechnum spicant

(Deer fern)

RHIZOME — woody, short-creeping with narrow chestnut-coloured scales.

STERILE FRONDS — (a) evergreen, leathery, spreading, numerous.

STIPE — yellowish to chestnut-brown.

BLADE — linear-lance-shaped, pinnatifid.

PINNAE — simple, not serrated and sessile (b).

FERTILE FRONDS — (c) - deciduous, erect, less numerous, from centre to crown.

STIPE — dark-chestnut coloured.

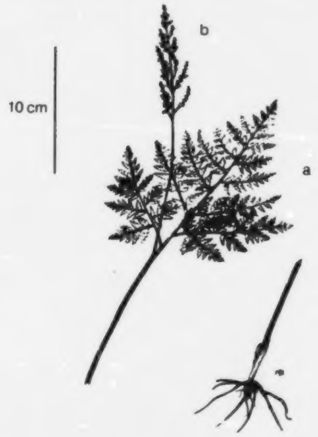
BLADE — similar to sterile ones but with pinnae narrower.

PINNAE — distant, linear, broad at base.

PINNULES — none.

HABITAT — typically coastal, characteristic of the CCPH zone, very little in CWHf, none in the interior subzones. Found on wetter more acid sites than the sword fern.

Ferns



Botrychium virginianum

(Rattlesnake fern)

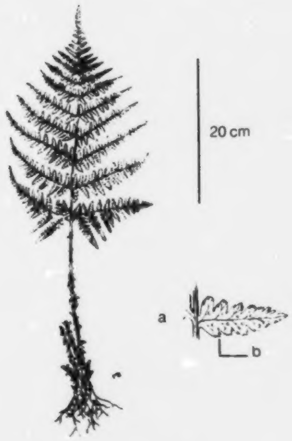
ERECT, 25-76 cm tall, with a sterile blade (a) **and a** ***fertile blade bearing sporangium*** (b).

STIPE — 7-25 cm long, equalling or exceeding length of sterile blade.

STERILE BLADE — deciduous, thin, deltoid.

FERTILE PORTION — a long stalked spike, 2-3 pinnately compound, 1-23 cm long.

HABITAT — woods, meadows, and damp open places.



Dryopteris assimilis

(Spiny wood-fern)

RHIZOME — stout, erect, ascending and chaffy.

FRONDS — 0.3-1 m tall, spreading, mostly deciduous.

STIPE — usually shorter than blade, with brownish scales; 15-45 cm long.

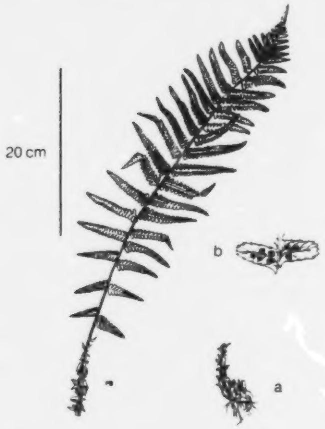
BLADE — triangular to oblong, nearly 3-pinnate.

PINNAE — (a) basal ones broadly triangular usually large and not symmetrical.

PINNULES — serrated, with pointed tip (b).

HABITAT — cool moist woods. Tolerates more acid conditions than *Athyrium*, but is still an indicator of good subhygric-hygric sites. Common in all forested subzones of the Skeena area.

Ferns



Dryopteris filix-mas
(Male fern)

RHIZOME — (a) stout, ascending, with long scales.

FRONDS — erect, deciduous, lance-shaped.

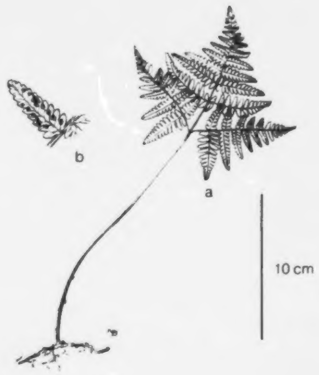
STIPE — 2-15 cm long, densely covered with long brown scales.

BLADE — 2 pinnate.

PINNAE — lance-shaped, sharp pointed.

PINNULES — serrated, blunt tip (b).

HABITAT — rocky woods, shaded talus slopes, and lava fields. Distribution very sporadic, uncommon fern.



Gymnocarpium dryopteris var. *disjunctum*
(Oak fern)

RHIZOMES — slender, wide-creeping, with a few, pale brown scales.

FRONDS — erect, deciduous, to 40 cm tall.

STIPE — slender, shiny, straw-coloured, occasionally with papery scales.

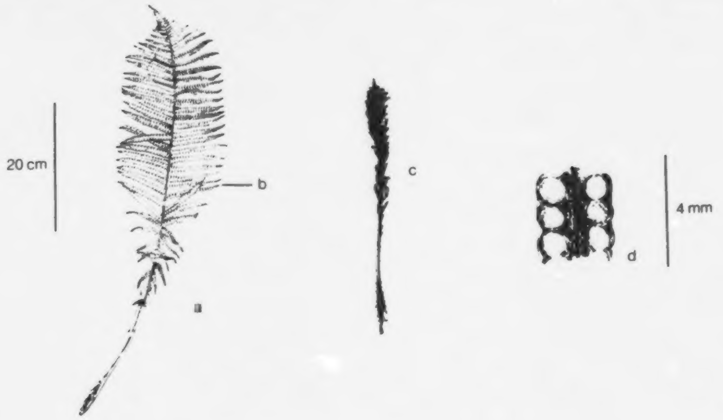
BLADE — broadly triangular, 3 pinnate.

PINNAE — (a) basal ones deltoid, lower pair nearly as large as rest of blade and distinctly asymmetrical.

PINNULES — crenate (b).

HABITAT — moist woods, shaded rocky slopes and ledges, very common throughout the province. An important indicator of medium to rich hygric to subhygric sites where it may become the dominant ground cover.

Ferns



Matteuccia struthiopteris var. *pensylvanica*

(Ostrich fern)

RHIZOME — widely creeping and branching below ground surface.

STERILE FRONDS — (a) - in a circular vase-like arrangement pinnate-pinnatifid; to 2 m tall.

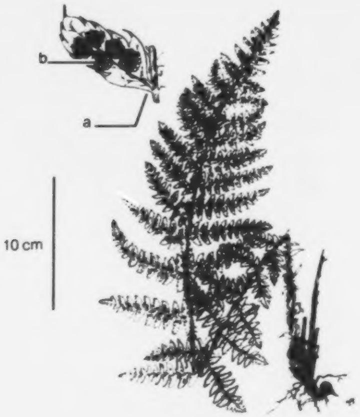
- **STIPE** — short, green to black at base.
- **BLADE** — broad, lance-shaped.
- **PINNAE** — spreading-ascending pointed.
- **PINNULES** — blunt, oblong (b).

FERTILE FROND — (c) stiffly erect, inside circle of sterile fronds, much shorter.

- **STIPE** — dark brown, as long as blade.
- **BLADE** — olive green to finally black.
- **PINNAE** — crowded, spreading-ascending with pod-like segments (d).

HABITAT — edge of swamps and rich seepage sites, particularly near neutral alluvial soils. Very localized in distribution, but a good indicator of rich alluvial sites where found.

Ferns



Polystichum braunii

(Braun's holly fern)

RHIZOME — very stout and erect.

FRONDS — numerous, ascending in a vase-like crown.

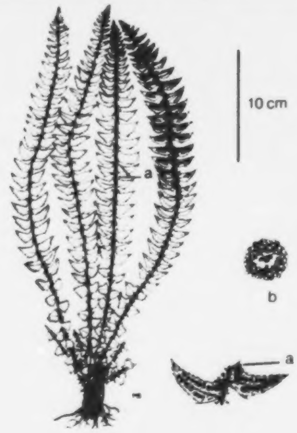
STIPE — stout, flattened and furrowed above, up to 20 cm long, densely chaffy with pale brown scales, the larger ones with a tapered tip.

BLADES — leathery, shiny green above, more or less deciduous, elliptic-lance shaped, tapering at the base and tip, up to 1.0 m long, 2-pinnate.

PINNAE — lance-shaped to oblong, blunt to pointed, densely chaffy, alternate above, mostly opposite below.

PINNULES — narrow egg-shaped to trapezoid oblong flat topped with a rectangular base (a), with sharp tipped teeth; sori (b) in two rows near the mid-vein, indusia with irregular margins.

HABITAT — cool, shaded talus slopes and rich rocky woods, coastal.



Polystichum lonchitis

(Mountain holly fern)

RHIZOME — stout, erect, chaffy, covered with old stipe-bases.

FRONDS — several, ascending in close crown, up to 10 cm long.

STIPE — very short, straw-coloured, densely chaffy with rusty-brown scales.

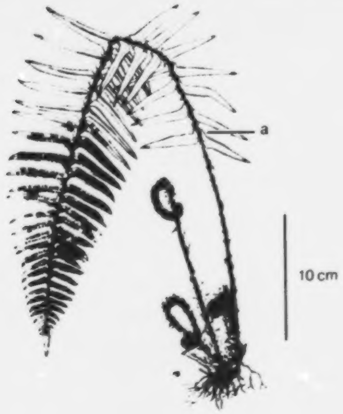
BLADES — evergreen, leathery, linear to narrowly linear, lance-shaped, tapering at both ends, simply pinnate.

PINNAE — alternate, basal pinnae triangular, middle and upper pinnae oblong-lance-shaped, sickle-shaped bases flared above (a) triangular below, unevenly toothed; sori (b) large, touching, in 2 rows, midway between mid-vein and margin, confined to upper half of frond; indusia large.

PINNULES — none.

HABITAT — crevices of rocks, mostly basic; cool, shaded talus and rocky slopes. In the subalpine and ESSF and MH zones.

Ferns



Polystichum munitum

(Western sword fern)

RHIZOME — short, woody, ascending, with reddish-brown scales.

FRONDS — stiffly erect or flattened drooping, up to 1.5 m long.

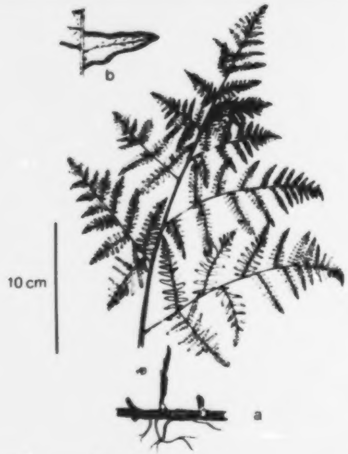
STIPE — densely chaffy.

BLADE — evergreen, linear-lanceolate, pinnate.

PINNAE — alternate, numerous, serrated, with a short stalk, and flared at the base like the hilt of a sword (a).

PINNULES — none.

HABITAT — damp rich woods and shaded slopes. Although sword fern is occasionally present east of the CCPH zone (i.e., Alistair Lake) it is a good character species for the CCPH.



Pteridium aquilinum ssp. *aquilinum* var. *pubescens*

(Western bracken)

RHIZOME — (a) below ground surface, much branched, wide-spreading with hairs and without scales.

FRONDS — very large, deciduous, scattered along rhizome.

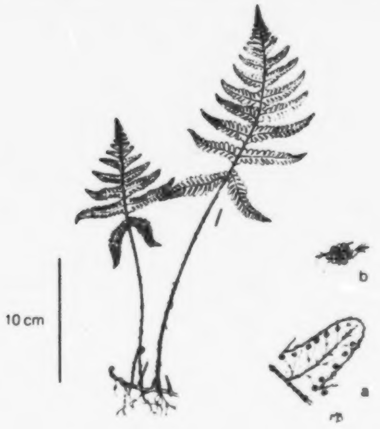
STIPE — stout, relatively long, somewhat straw-coloured, tough and woody.

BLADE — coarse, 2-3 pinnately compound.

PINNAE — opposite or nearly so.

PINNULES — alternate, edges rolled under (b).

HABITAT — dry, sunny sites, often weedy, colonizing roadsides, clearings etc. Usually in slightly acidic soils, province wide.



Thelypteris phegopteris
(Northern beech-fern)

RHIZOME — long, slender, sparsely scaly, 15-50 cm long.

FRONDS — scattered, deciduous, 10-50 cm long.

STIPE — equal or usually longer than blade, brown basally, straw coloured upwards, sparsely scaly.

BLADES — ciliate-margined, hairy both sides, triangular-egg-shaped in outline, 10-20 cm long.

PINNAE — rolled to back, 10-25 opposite or offset pairs, sessile, lowest pairs largest curving downward, upper pairs reduced.

PINNULES — (a) oblong obtuse, entire or crenate, with sori (b) borne just within the margins, indusia lacking.

HABITAT — cliff crevices, moist banks in wooded regions, meadows. A very good indicator of rich hygric sites in CWHf, absent from SBS and ICH.

Sedges, Grasses and Rushes

KEY TO THE SEDGE, GRASS AND RUSH FAMILIES

1a. Stems circular in cross-section, fruit a capsule or grain.
  2a. Fruit a grain, flowers associated with scale-like bracts (lemmas, glumes) .... Grass family (see p. 74 ,81)
  2a. Fruit a three-valved capsule; flowers not associated with scale-like bracts .... Rush family (see p. 76, 85)
1b. Stem generally triangular in cross section; fruit an achene .... Sedge family (see p. 76)

Grasses are distinguished by jointed stems that are circular in cross-section and usually hollow in the internodes; the leaves are two ranked; sheaths usually open; ligule present; flowers associated with glumes and lemmas; fruit a grain.

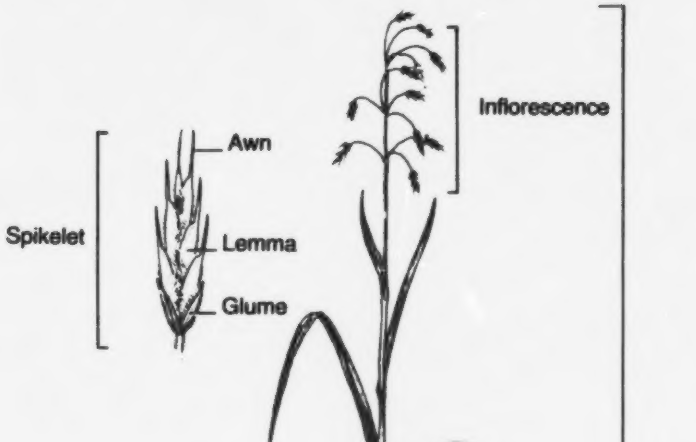
Sedges are distinguished by solid stems that are usually triangular in cross-section and not jointed; leaves are three ranked when present; sheaths closed; ligule rarely present; flowers mostly solitary within a chaffy bract; fruit an achene.

Rushes are distinguished by stems that are circular in cross-section; leaves often basal, or sometimes reduced to open or closed sheaths; leaf blades when present are circular to flat and grass-like; flowers small, chaffy and lilylike (not associated with scale-like bracts); fruit a three-valved capsule.

Sedges, Grasses and Rushes

Poaceae (Grass family)

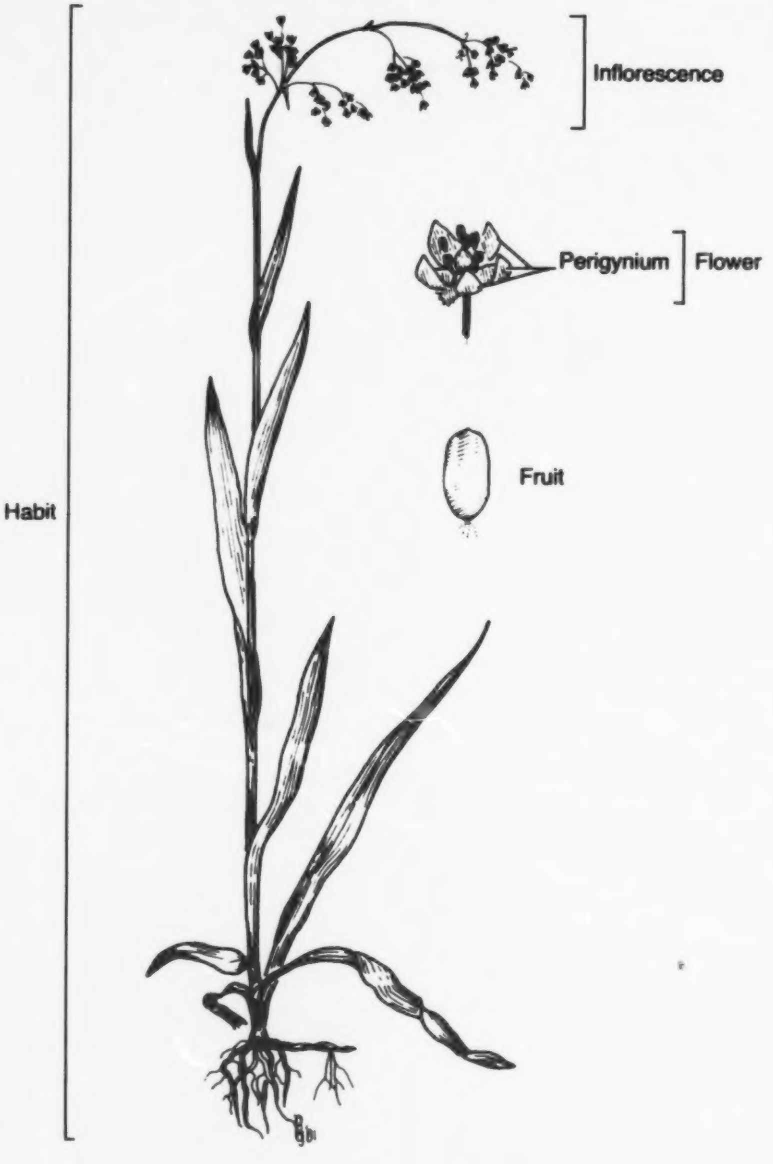
Features of the *Poaceae* (Grass family)


Inflorescence
Awn
Spikelet
Lemma
Glume
Habit
Blade
Ligule
Sheath

Sedges, Grasses and Rushes

Juncaceae (Rush family)

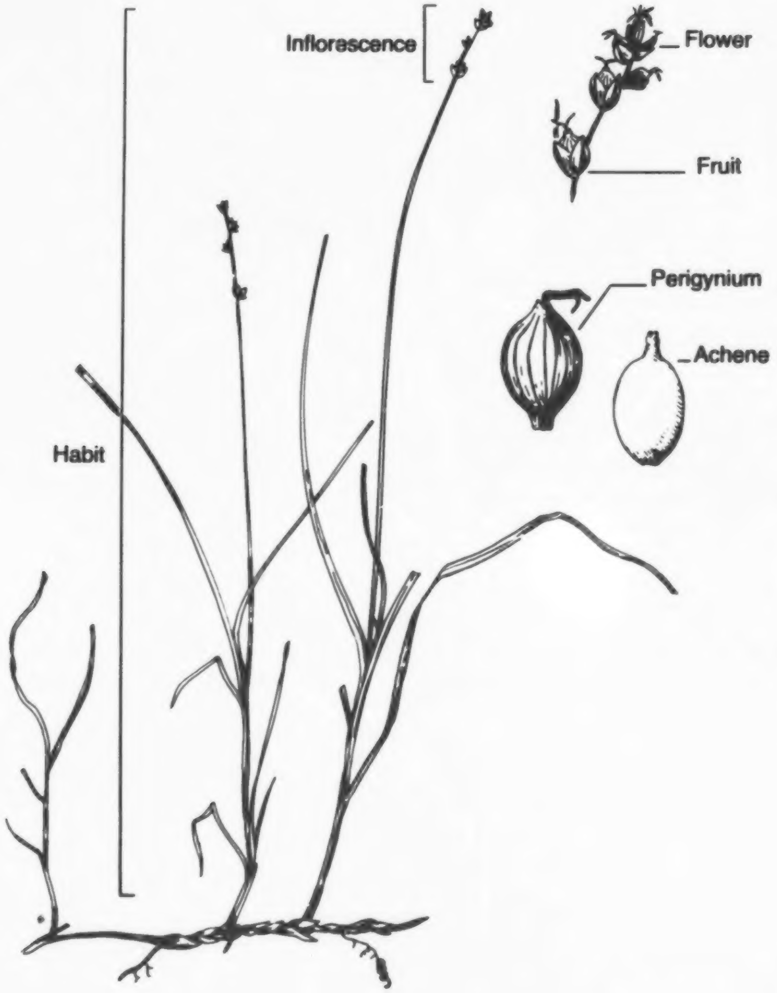
Features of the Juncaceae **(Rush family)**


Inflorescence
Perigynium
Flower
Fruit
Habit

Sedges, Grasses and Rushes

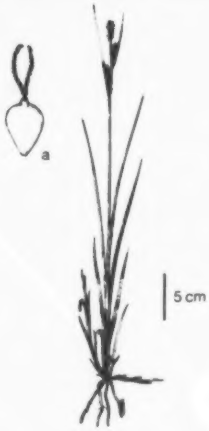
Cyperaceae (Sedge family)

Features of the *Cyperaceae* (Sedge family)


Inflorescence
Flower
Fruit
Perigynium
Achene
Habit

Sedges, Grasses and Rushes

Cyperaceae (Sedge family)



Carex aquatilis

(Water sedge)

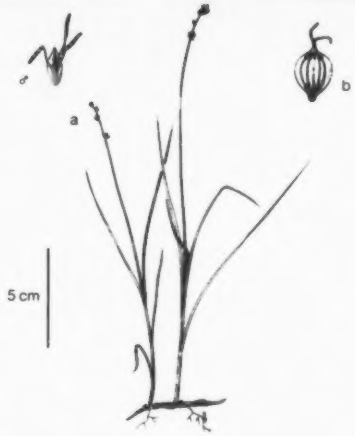
SEDGE, stems 0.3-1.0 (1.5) m tall, borne singly or a few stems together arising ***from stout deep-seated rhizomes*** forming large clumps or a turf.

LEAVES — elongate, flat or nearly so, ***2-7 mm wide.***

INFLORESCENCE — ***3-7 cylindrical spikes,*** not closely crowded, 1.5-5 cm long, ***terminal spike male,*** others female or mixed with male on top; ***lowest bract elongate and leafy 7-25 cm long usually equalling the inflorescence;*** scales on female flowers reddish-brown to purplish black with a pale midrib, narrower than the fruit.

FRUIT — achene 1.2-1.5 mm long, shorter and narrower than the perigynium; perigynium (a) strongly flattened with well developed marginal nerves only, speckled with reddish-brown on a pale coppery to greenish background.

HABITAT — in shallow water or very wet soil, often in swampy places or at the margins of lakes and ponds.



Carex disperma

(Soft-leaved sedge)

SEDGE, soft slender plants with single to several stems arising from a system of slender rhizomes, 10-40 cm tall.

LEAVES — lower leaves reduced to scales, upper leaves flat, 1-2 mm wide all ***borne on the lower part of the stem.***

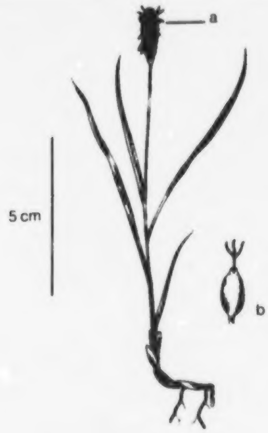
INFLORESCENCE — spikes (a) slender, linear, ***sessile, small and few-flowered;*** 1-3 male flowers on top with female flowers below, female scales thin, dry and chaffy, translucent, equal or shorter than the fruiting body.

FRUIT — achene doubly-convex-shaped, perigynium (b) many-nerved, ending in a short beak.

HABITAT — swamps, bogs, wet woods and shady meadows, important indicator of black spruce *Sphagnum* bogs in the ICHg3.

Sedges, Grasses and Rushes

Cyperaceae (Sedge family)



Carex nigricans

(Black alpine sedge)

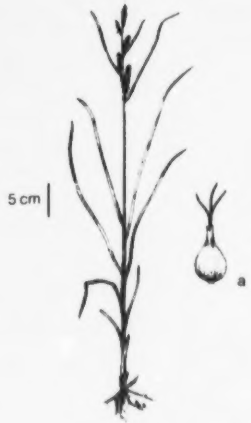
SEDGE, rhizomatous, loosely tufted, (0.5) 10-30.5 cm tall.

LEAVES — lower leaves scale-like, leaf blades numerous, 4-9 per stem, firm and flat, 4-13 cm long, 1.5-3 cm wide, ***mostly smooth with somewhat rough margins.***

INFLORESCENCE — spike solitary (a), with male flowers above, female flowers below, oblong, rounded 1-2 cm long, 0.6-1 cm wide; ***female flowers with dark brown scales with a thin margin and a pale midrib.***

FRUIT — achene 3-angled; ***perigynium*** (b) ***dark brown to black at the tip and paler near the base,*** 3-4.5 mm long, lance-shaped to oval with pair of marginal nerves only, short-beaked.

HABITAT — meadows, stream banks, ***late snow patches*** at high elevations in the mountains, common to ESSF and MH zones.



Carex rostrata

(Beaked sedge)

SEDGE, one of the most common sedges; stems arising singly or few together from stout, deep seated, elongate creeping rhizomes, sometimes forming a dense sod, mostly (30) 0.5-1.2 m tall.

LEAVES — ***smooth with regular knobby septa on the inside of the elongate, flat blades*** (2) 4-12 (15) mm wide.

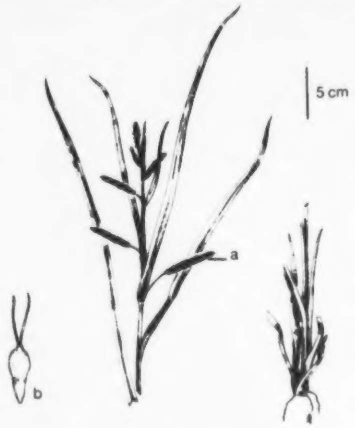
INFLORESCENCE — several remote flowering spikes form an elongate, erect inflorescence ***with female spikes on the bottom,*** the lower mostly long-stalked, the others sessile; upper male spikes 2-7 cm long, 2-4 cm thick; scales on female flowers straw-coloured to dark reddish brown, narrower and shorter than perigynia, pointed with a small bristle.

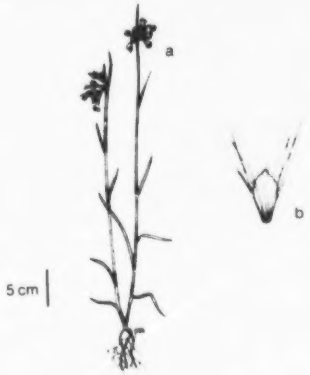
FRUIT — achene 3-angled; perigynium (a) shiny, pale green with a reddish-brown tip, 8-16 nerved, 4-7 mm long with a round body and abrupt short beak.

HABITAT — in wet soil on shallow water by margins of streams, lakes and ponds, ***usually on organic substrates.***

Sedges, Grasses and Rushes

Cyperaceae (Sedge family)





Carex sitchensis

(Sitka sedge)

SEDGE, similar in most respects to *C. **aquatilis***, but coarser, stouter and more densely clustered, up to 2.0 m tall ***with short or no rhizomes.***

LEAVES — ***up to 1 cm wide,*** flat with revolute margins.

INFLORESCENCE — 2 or 3 elongate male spikes, 3-10 cm long, ***lower spikes*** (a) ***nodding on slender stalks***, elongate bracts 20-50 cm long.

FRUIT — achene enclosed by glabrous, veinless or nearly so, perigynium (b).

HABITAT — in shallow water or very wet soil in swamps, wet meadows and lakeshore, near the coast.

Eriophorum angustifolium ssp. *subarcticum*

(Many-spiked cottongrass)

SEDGE, extensively colonial from creeping rhizomes; stems 20-60 cm tall.

LEAVES — basal and on stem; ***blade 2-6 mm wide,*** flat, becoming narrow and triangular or channelled toward tip; upper-most culm leaf equalling or exceeding sheath.

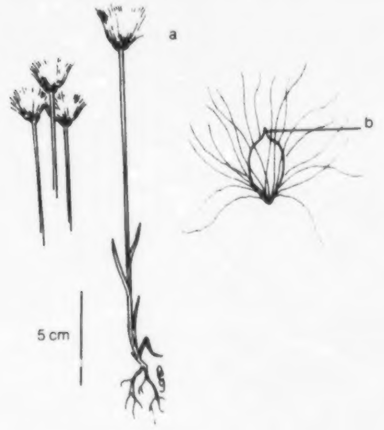
FLOWERS — spikelets (a) 2-8 per inflorescence where stems of spikelets arise from a common point; bristles numerous, white or nearly so; ***several unequal bracts beneath inflorescence, 2 or more of bracts leafy in texture, longest one surpassing inflorescence.***

FRUIT — achene (b) blackish, 2-3 times long as wide.

HABITAT — cold swamps and bogs at moderate to high elevations in mountains.

Sedges, Grasses and Rushes

Cyperaceae (Sedge family)



Eriophorum scheuchzeri

(Scheuchzer's cottongrass)

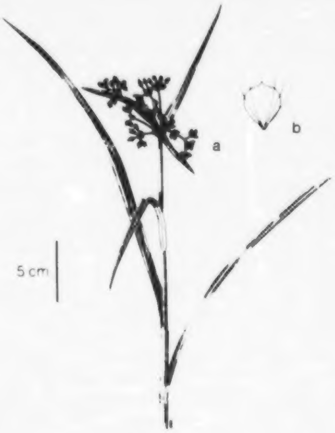
SEDGE, extensively colonial from creeping rhizomes; stems short, 10-40 cm tall, solitary.

LEAVES — few, mostly borne near base, with well-developed sheath and slender, much-reduced blade which is channelled or triangular and ***not much greater than 1 mm wide;*** uppermost sheath borne below middle of culm, dark-tipped and bladeless.

FLOWERS — ***spikelets*** (a) ***solitary and terminal; bracts beneath inflorescence lacking;*** bristles long, woolly, white or nearly so; several similar 1-headed cottongrass species also occur in the Skeena area.

FRUIT — achenes brown or blackish with prominent apical tip (b).

HABITAT — cold, wet places; boggy ground, wet meadows, riverbanks, lake and pond shores, shallow pools.



Scirpus microcarpus

(Small-fruited bulrush)

SEDGE, coarse, leafy-stemmed perennial; with stout creeping rhizomes; stems arising singly or few together 0.5-1.5 m tall, ***3-angled.***

LEAVES — several; blade flat, grasslike sheaths tinted reddish-purple.

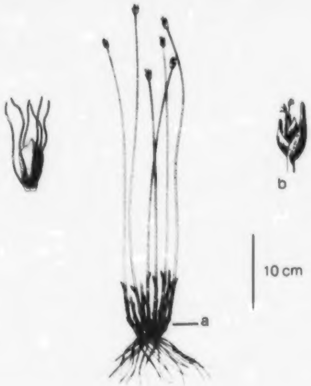
FLOWERS — spikelets ***in small pedunculate clusters in compound, terminal umbrella-shaped inflorescence*** (a); several leaf-like, unequal, sheathless bracts below overall inflorescence.

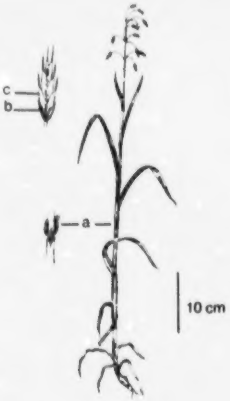
FRUIT — achene (b) doubly-convex-shaped; bristles 4-6.

HABITAT — wet, low ground, from lowlands to moderate mountain elevations. Most common on the coast, but also found in the interior ICHg and SBS.

Sedges, Grasses and Rushes

Cyperaceae (Sedge family) *Poaceae* (Grass family)





Trichophorum cespitosum ssp. ***cespitosum***

(Tufted club rush)

SEDGE, perennial, with short, freely rooting rhizomes; stems very densely tufted, 10-40 cm tall, smooth, almost ***cylindrical***, greyish green.

LEAVES — (a) several conspicuous light brown scale-like leaves at base of stem; single more normal leaf above base.

FLOWERS — (b) spikelets ***solitary, terminal;*** 2 or 3 empty scales at base of inflorescence (deciduous as inflorescence reaches maturity), lowest of scales with prominent, terminal bristle.

FRUIT — achene (c) 3-angled; 6 bristles, fragile, usually exceeding achene.

HABITAT — *Sphagnum* bogs, marshes, other very wet places.

Bromus vulgaris var. ***vulgaris***

(Brome grass)

GRASS, slender perennial without creeping rhizomes, 0.8-1.2 m tall.

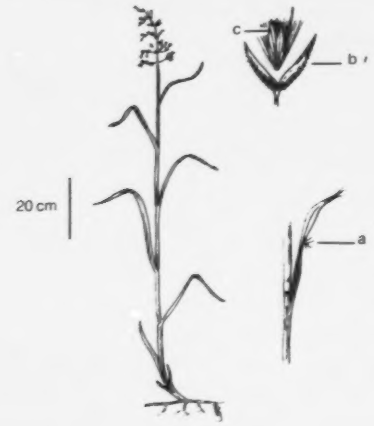
LEAVES — up to 12 mm wide, flat and droopy, with long, soft, straight hairs; sheaths (a) usually hairy and not split open; ligules long (3-5 mm).

INFLORESCENCE — compound, 10-15 cm long, the branches slender and drooping; glumes (b) narrow, the first 1-nerved, 5-8 mm long, the second broader, longer and 3-nerved; lemmas (c) 8-10 mm long with an awn 6-8 mm long.

HABITAT — an interior species common to open woods and fields.

Sedges, Grasses and Rushes

Poaceae (Grass family)



Calamagrostis canadensis

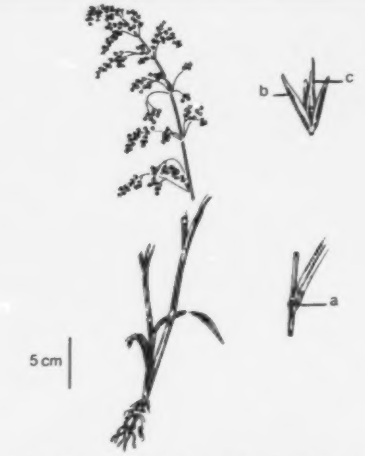
(Bluejoint)

GRASS, ***tufted*** sturdy perennial, erect to drooping, 0.6-1.0 m tall with numerous creeping rhizomes.

LEAVES — numerous, elongate, flat, rather lax, rough to the touch; ligules membranous, 3-8 mm long, collar (a) usually hairy.

INFLORESCENCE — nodding, compound from loose and open to narrow and dense; glumes (b) usually purplish, 3-4 mm long with a tapering tip; lemmas (c) smooth and thin, nearly as long as glume with a slender awn attached near middle; base of individual florets hairy, the hairs at least ¾ as long as the lemma.

HABITAT — marshes, wet places, open woods and meadows, a widespread interior species, common in the ICH, SBS and ESSF.



Cinna latifolia

(Wood reed grass)

GRASS, slender perennial 0.6-1.2 m high.

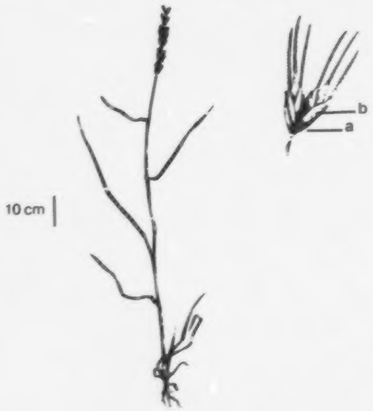
LEAVES — thin soft blades, deep green, rough to the touch, 5-12 mm wide, veins unequal in size, ligules (a) 3-10 mm long.

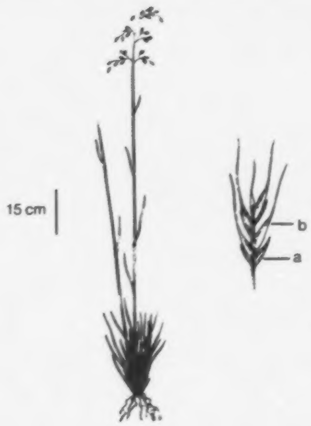
INFLORESCENCE — compound, 15-30 cm long, loose branches drooping; spikelets one-flowered; glumes (b) slender, 3-4 mm long, the second slightly longer, rough to touch on the back; lemmas (c) same length as shorter glume with a tiny awn.

HABITAT — moist woods.

Sedges, Grasses and Rushes

Poaceae (Grass family)





Elymus glaucus

(Blue wild rye grass)

GRASS, tufted perennial, often bent at base, erect 0.6-1.2 m tall, leafy extremely variable species.

LEAVES — flat blades, usually lax, mostly 8-15 mm wide, rough on both surfaces, sometimes narrow with slightly rolled edges.

INFLORESCENCE — ***a dense long spike,*** 5-20 cm long, erect to nodding; spikelets usually 2 per node; glumes (a) lance-shaped at their base with 2-5 strong nerves, rough to touch and pointed or awn-tipped; lemmas (b) long awned, 1-2 cm.

HABITAT — open woods and dry hills at low and medium altitudes, common to the ICHg and SBS in exposed seral aspen stands.

Festuca occidentalis

(Western Fescue)

GRASS, perennial with large tufts of basal leaves and slender culms, 0.4-1.0 m tall.

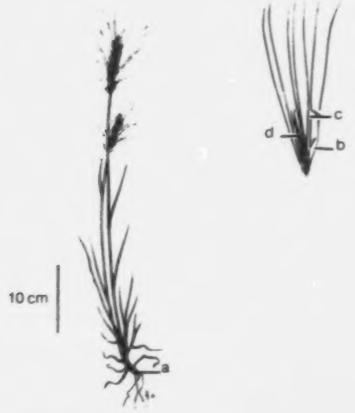
LEAVES — ***mostly basal, slender,*** edges rolled toward the upper surface, soft and smooth to touch.

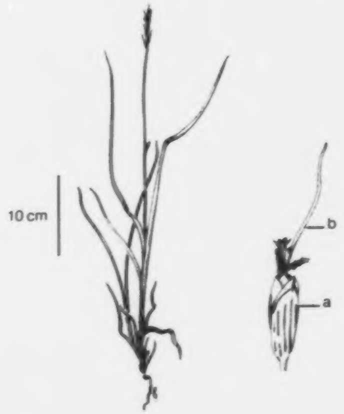
INFLORESCENCE — loose, compound, often drooping at top, the branches solitary or in pairs; glumes (a) broadly lance-shaped, soft, the lower 3-4 mm and the upper 4-5 mm long; lemmas (b) thin 5-6 mm long, tapering to a slender awn 4-5 mm long.

HABITAT — widespread in the ICHg, SBS, common to subhygric mixed woods.

Sedges, Grasses and Rushes

Poaceae (Grass family)





Hordeum jubatum

(Foxtail barley)

GRASS, tufted perennial, 30-60 cm tall ***bases*** (a) ***reclining on the ground,*** but with erect stems.

LEAVES — 2 to 5 mm wide, ***rough to touch***.

INFLORESCENCE — a soft, pale, nodding spike, 5-10 cm long, about as wide; spikelets one-flowered; lemmas (b) long-awned (1.5-3 cm); glumes (c) awn-like; three spikelets attach together at each node of the stem, the two outside spikelets (d) are reduced to awn-like.

HABITAT — open ground, meadows and waste places, widespread, often troublesome weed.

Oryzopsis asperifolia

(Rough-leaved ricegrass)

GRASS, tufted perennial 20-50 cm tall.

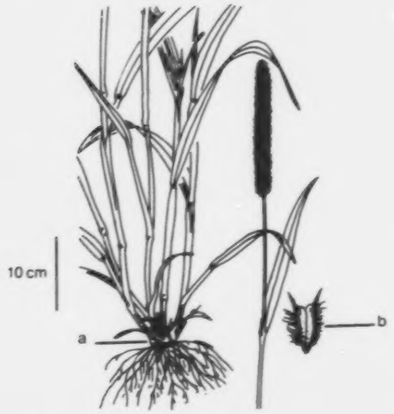
LEAVES — leaf blades of flowering stems reduced or absent, basal blades tough, erect, 3-7 mm broad, flat with slightly rolled edges, rough to touch and tapered at both ends.

INFLORESCENCE — few-flowered 4-8 cm long; glumes (a) broad and pointed, and both about 7 mm long; spikelets one-flowered; lemma with a bent or twisted awn (b).

HABITAT — an indicator of ICHg, SBS dry pine ecosystems.

Sedges, Grasses and Rushes

Poaceae (Grass family) *Juncaceae* (Rush family)



Phleum pratense

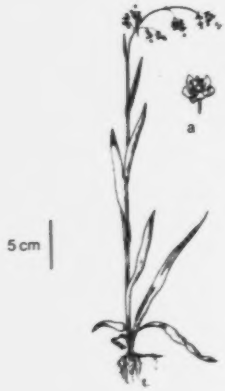
(Common timothy)

GRASS, perennial 0.5-1.0 m tall with a swollen bulb-like base (a), forms large clumps.

LEAVES — elongate blades 4 to 8 mm wide.

INFLORESCENCE — cylindrical, spike-like, 5-10 cm long; spikelets one-flowered; glumes both the same, approximately 3.5 mm long, squared at the tip with a stout awn 1 mm long and comb-like hairs (b) down back.

HABITAT — commonly escaped from cultivation, in field and waste places, widespread.



Luzula parviflora

(Wood-rush)

RUSH, tufted perennial, 20-50 cm tall, with creeping to upright stems.

LEAVES — 2-4 on the stem, linear-strap shaped 3-10 mm broad.

FLOWERS — (a) ***borne singly in nodding inflorescences;*** bract unevenly margined, and often fringed; perianth greenish tawny to deep purplish brown.

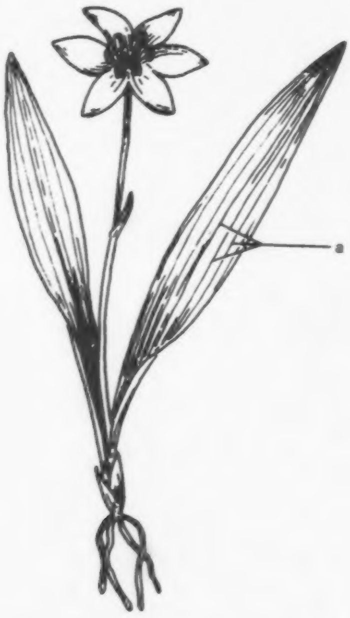
FRUIT — a deep greenish to deep purplish-brown capsule.

HABITAT — subhygric to hygric sites at high elevations, common in the MH zone.

Lilies

Liliaceae (Lily family)

Features of the *Liliaceae* (Lily Family)



LEAVES — usually parallel veined (a); commonly oblong or linear shaped; petiole seldom developed.

FLOWER — parts in threes or multiple of threes, regular, perfect and often showy.

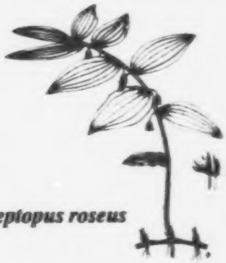
Lilies

Liliaceae (Lily family)

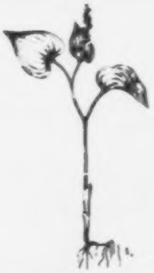
KEY TO THE COMMON LILY SPECIES
Adapted from Taylor, 1966

- 1a. Leaves whorled; bell-shaped flower, brownish-coloured .... *Fritillaria camschatcensis*
- 1b. Leaves alternate or basal.
  - 2a. Principal leaves on stem never crowded toward base.
    - 3a. Stem branched.
      - 4a. Flowers 1 - several at the tip of the branches of the main stem; leaves usually strongly slanted relative to the stem; stem hairy.
        - 5a. Ovary broadly egg-shaped, with papillae (short, blunt, rounded projections which give the fruit a rough velvety texture), style without hairs; leaves not hairy on the upper surface, the marginal cilia irregular, spreading, flattened, not pointing forward .... *Disporum trachycarpum*
        - 5b. Ovary elliptic; without papillae, usually smooth or slightly hairy; style with hairs; leaves usually hairy on the upper surface, the marginal cilia pronounced, not flattened, distinctly pointing forward .... *Disporum hookeri*
      - 4b. Flowers borne singly along the underside of the stem, nodding pedicel jointed or twisted; leaves slightly or not at all slanted; stem usually not hairy .... *Streptopus amplexifolius*
    - 3b. Stem unbranched below inflorescence.
      - 6a. Flowers axillary (arising between stem and leaf).
        - 7a. Flowers bell-shaped; leaves broadly rounded but not clasping at base, marginal cilia coarse and visible .... *Streptopus roseus*
        - 7b. Flowers saucer-shaped with petals and sepals spreading, leaves rounded and slightly clasping at base, marginal cilia microscopic ... *Streptopus streptopoides*
      - 6b. Flowers in a terminal inflorescence.
        - 8a. Flowers in a simple raceme.
          - 9a. Perianth segments 4; leaves 1 or 2, blades heart-shaped, leaves distinctly petioled, broadly arrow-shaped with rounded lobes .... *Maianthemum dilatatum*
          - 9b. Perianth segments 6; leaves more than 4, sessile, lanceolate to oblong .... *Smilacina stellata*
        - 8b. Flowers in panicle.
          - 10a. Flower segments 2 mm long; panicle usually less than 10 cm long; stem somewhat arched, not hairy; .... *Smilacina racemosa*
          - 10b. Flower segments more than 4 mm long; panicle more than 20 cm long; stem erect, very stout; hairy, but sometimes sparsely so; leaves very prominently veined, appearing pleated, densely hairy beneath; plant large .... *Veratrum viride*
  - 2b. Principal leaves largely basal, stem leaves absent, leaves egg-shaped to lance-shaped, 2-3 leaves .... *Clintonia uniflora*

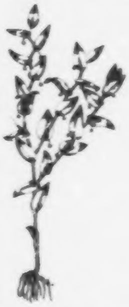
Lilies



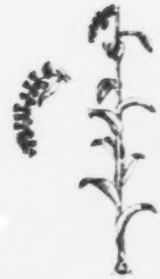
Streptopus roseus



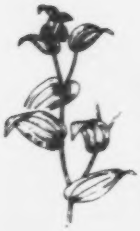
Maianthemum dilatatum



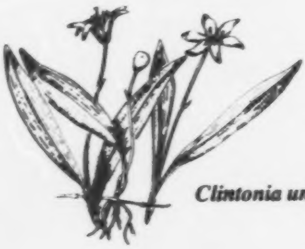
Streptopus amplexifolius



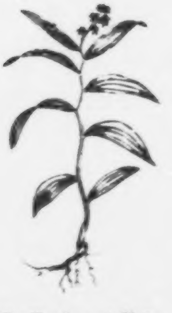
Veratrum viride



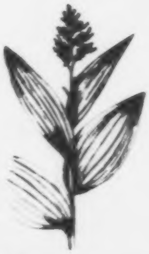
Disporum hookeri



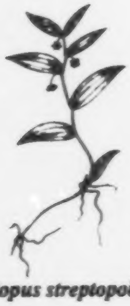
Clintonia uniflora



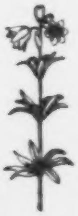
Smilacina stellata



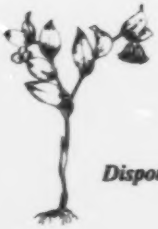
Smilacina racemosa



Streptopus streptopoides



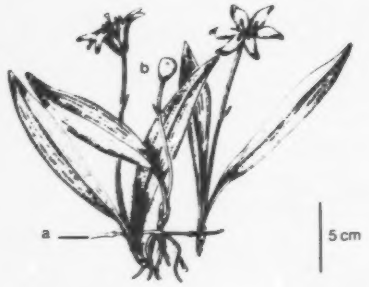
Fritillaria camschatcensis



Disporum trachycarpum

Lilies

Liliaceae (Lily family)



Clintonia uniflora

(Queen's cup)

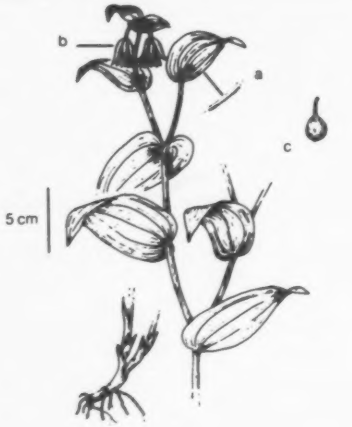
LILY, perennial herb, ***widely rhizomatous*** (a).

LEAVES — 2-3 basal oblong or elliptic, ***slightly fleshy,*** noticeably hairy margin.

FLOWERS — ***solitary (rarely 2), white.***

FRUIT — lone bright ***metallic blue berry*** (b).

HABITAT — coniferous forest, often on moist soils, to 1525 m elevation. Widespread throughout the coastal and interior zones on mesic and moister sites.



Disporum hookeri var. *oreganum*

(Hooker's fairybells)

LILY, rhizomatous perennial herb with stems sparingly branched.

LEAVES — oval-elliptic, hairy beneath, slightly so above, ***marginal cilia*** (a) ***pointing forward.***

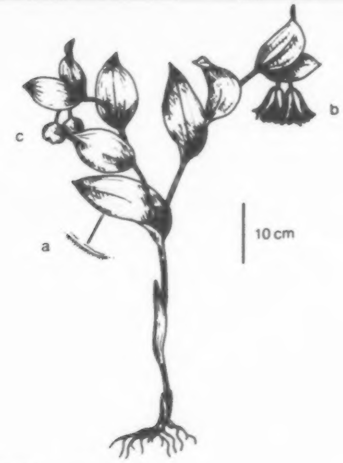
FLOWERS — 2-3 per branch, narrowly bell-shaped (b), creamy white.

FRUIT — ***red berry*** (c), 4-6 seeded.

HABITAT — wooded areas, usually where moist, often in deep shade. Widespread below 55°N latitude, coast and interior.

Lilies

Liliaceae (Lily family)



Disporum trachycarpum

(Rough-fruited fairybells)

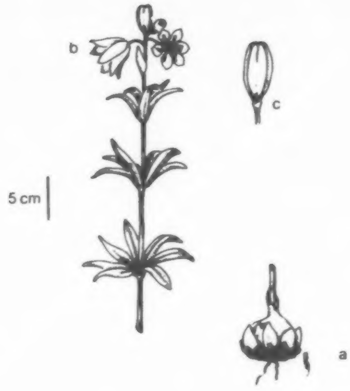
LILY, similar to *D. hookeri* in appearance; differing in leaf and fruit characteristics, (see Lily key, p. 87).

LEAVES — not hairy on upper surface, marginal cilia (a) not pointing forward.

FLOWERS — 1-2, narrowly bell-shaped (b), ***creamy white.***

FRUIT — ***red berry*** (c), ***with velvet texture,*** 6-12 seeded.

HABITAT — wooded slopes, often near streams or in aspen groves. A typically interior species found on drier more exposed sites than *D. hookeri*. Common in seral stands of the ICHg and SBS.



Fritillaria camschatcensis ssp. *camschatcensis*

(Riceroot lily, Black lily)

LILY, stems sturdy, 20-50 cm tall, from ***bulbs composed of several large fleshy scales*** subtended by numerous rice-like bulblets (a).

LEAVES — ***in 1-3 whorls of 5-9 each,*** usually 1 to several scattered above apparent whorl, lance-shaped.

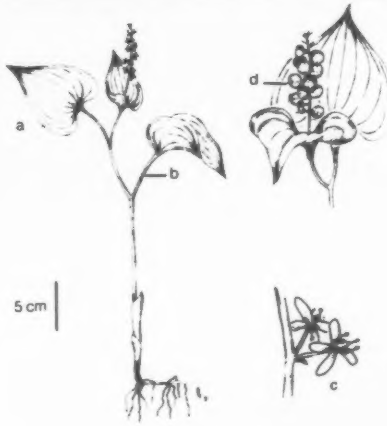
FLOWERS — 2-7, narrowly bell-shaped (b), ***dark greenish-brown to brownish-purple,*** sometimes streaked or spotted with yellow, ill-smelling.

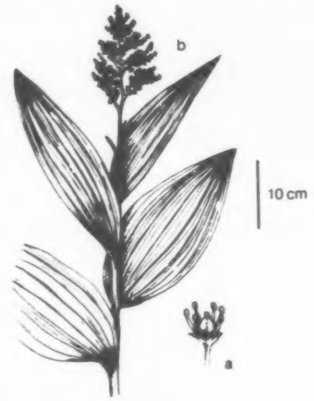
FRUIT — ***capsule*** (c), not winged.

HABITAT — moist areas, from near tideflats to mountain meadows above 650 m elevation. Common along the coast, scattered up the Skeena and Bulkley valleys.

Lilies

Liliaceae (Lily family)





Maianthemum dilatatum

(False lily-of-the-valley)

LILY, widely rhizomatous perennial herb with erect, leafy, unbranched flowering stems 10-35 cm tall.

LEAVES — mostly 2, sometimes 1 or 3, ***heart-shaped*** (a), ***glabrous below, distinctly petioled*** (b).

FLOWERS — (c) ***white,*** in an elongated inflorescence.

FRUIT — ***red berry*** (d).

HABITAT — shaded or moist streambanks, open to dense moist woods. A coastal species common in the CCPH and wetter parts of the CWH.

Smilacina racemosa

(False spikenard)

LILY, perennial herb; ***flowering stem simple,*** 30-90 cm tall.

LEAVES — alternate, sessile or nearly so, with ***clasping base, finely hairy,*** oval-oblong.

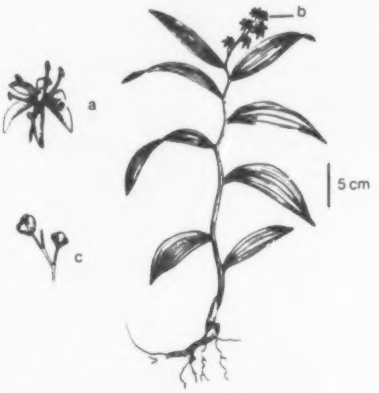
FLOWERS — (a) ***numerous,*** white, in a branched, terminal inflorescence (b).

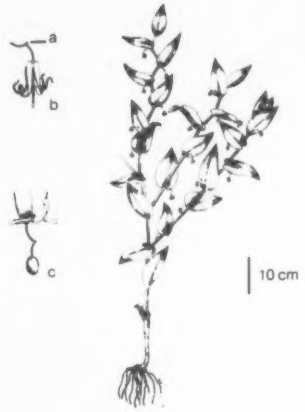
FRUIT — ***reddish berries;*** not palatable.

HABITAT — moist woods and streambanks to open forests. Widespread on medium to rich mesic and subhygric sites, common in aspen-hazelnut ecosystems of ICHg3 and in the SBS.

Lilies

Liliaceae (Lily family)





Smilacina stellata

(Star-flowered Solomon's-seal)

LILY, perennial herb; ***flowering stem simple,*** 20-60 cm tall.

LEAVES — alternate, sessile, narrow oblong-lance-shaped.

FLOWERS — (a) creamy white, in short, few-flowered inflorescence (raceme) (b).

FRUIT — ***berry*** (c), ***greenish-yellow*** becoming blackish.

HABITAT — moist woods and streambanks to rocky, well drained, often exposed hillsides. Common throughout B.C. on medium to rich sites. Especially characteristic of mesic sites in ICHg and on alluvial sites in SBS.

Streptopus amplexifolius

(Clasping-leaved twistedstalk)

LILY, perennial herb with stems freely branched, 0.5-1.0 m.

LEAVES — oval-oblong, pointed, clasping.

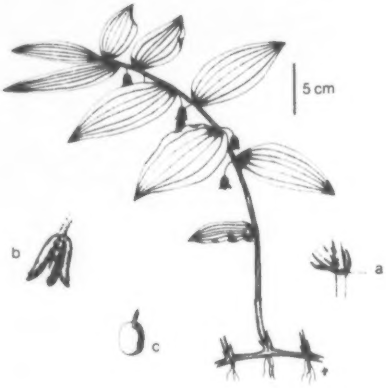
FLOWERS — white with greenish-tinge; ***flower stem jointed or "twisted"*** (a), with a single flower (b).

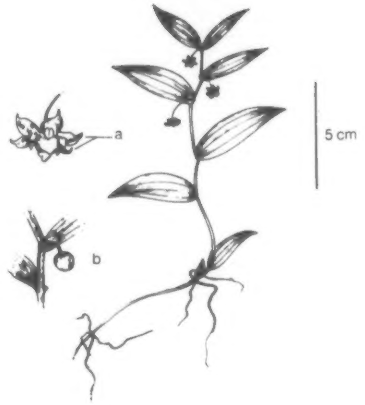
FRUIT — ***yellow to red,*** many seeded, oblong berry (c).

HABITAT — moist forest, streambanks and mountain thickets. Generally found on moist sites. Widespread throughout coastal and interior zones.

Lilies

Liliaceae (Lily family)





Streptopus roseus var. *curvipes*

(Rosy twistedstalk)

LILY, perennial herb with stems mostly simple, 15-30 cm tall, sparsely hairy-fringed at the nodes (a).

LEAVES — mostly oval-elliptic, cilia-toothed margin.

FLOWERS — bell-shaped (b), ***white or greenish-yellow to rose,*** streaked or spotted with reddish-purple, commonly 1 per flowering stem

FRUIT — red berry (c), oblong, ***several seeded.***

HABITAT — streambanks, damp montane woods and montane meadows. Widespread on mesic and wetter, moderately rich sites in the CWH, ICHg, wetter SBS, MH and ESSF. An indicator of Devil's club-oak fern sites.

Streptopus streptopoides var. *brevipes*

(Small twistedstalk)

LILY, herbs, 10-20 cm tall, from creeping rootstock; stem simple, ***coarsely fringed-hairy at nodes opposite leaf blade***.

LEAVES — egg-shaped-lance-shaped to oblong-lance-shaped, sharp pointed at tip.

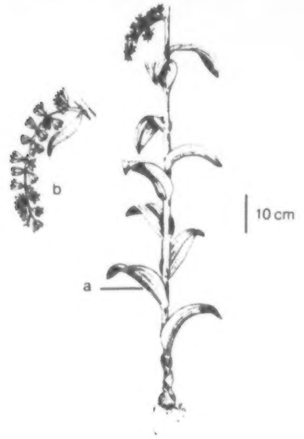
FLOWERS — solitary, axillary, flower stem slender, ***petals curved backward*** (a); perianth greenish ***strongly purple-tinged,*** spreading and saucer-shaped.

FRUIT — (b) red berry, ***few-seeded.***

HABITAT — dense, coniferous, mid-montane woods. In Kitwanga - Hazelton area with amabilis fir. Especially common at higher elevations in the CWH and MH zones on mesic sites receiving abundant snowfall.

Lilies

Liliaceae (Lily family)



Veratrum viride ssp. *eschscholtzii*

(Green false hellebore)

LILY, tall perennial with simple stem, 1-2 m tall.

LEAVES — oblong-elliptic, ***coarsely veined*** (a), ***clasping.***

FLOWERS — ***yellow-green to deep green,*** in thin, branched, drooping spikes (b).

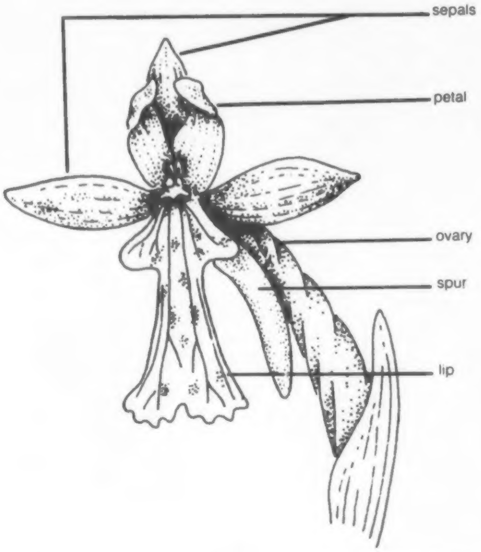
FRUIT — capsule, oblong to ovoid-shaped, straw-coloured to dark brown.

HABITAT — wet thickets, swamps, lowlands to montane meadows. Usually at subalpine elevations, wet meadows, late snowmelt patches in the forest. Good indicator of ESSF and MH zones.

Orchids

Orchidaceae (Orchid family)

Distinguishing characteristics of the Orchidaceae *(Orchid family)*

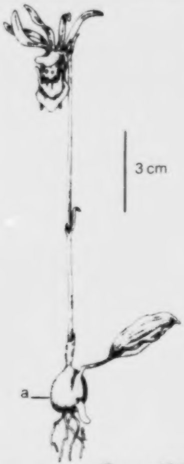


LEAVES — mainly alternate, parallel veined, much reduced in saprophytic species.

FLOWERS — strikingly irregular, often with a spur; very attractive and often showy.

Orchids

Orchidaceae (Orchid family)



Calypso bulbosa

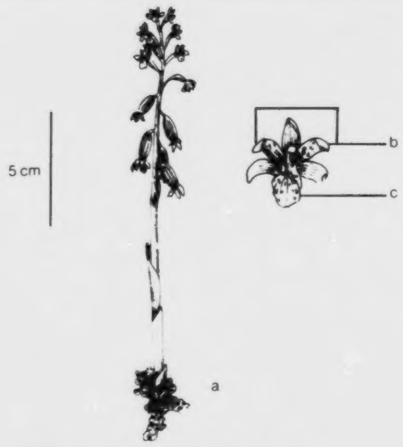
(Fairyslipper)

ORCHID, herb 5-20 cm tall; ***corm egg-shaped*** (a).

LEAVES — ***single leaf produced at top of corm in fall*** and persistent through winter, withering in summer; broadly egg-shaped, mostly 3-6 cm long.

FLOWERS — single; sepals and 2 petals alike, ***magenta with 3 deeper coloured veins;*** lip hanging downward, somewhat longer than perianth segments, whitish to yellowish-purple or reddish-purple, variously spotted on flanged appendage and streaked inside sac with brownish purple.

HABITAT — mostly in shade of cool, moist forests, in soil rich with decaying leaves and wood; from near sea level to mid-montane. Widespread throughout B.C.



Corallorhiza maculata

(Spotted coralroot)

ORCHID, perennial, ***saprophytic*** herb, 20-40 cm tall; ***with coral-like roots*** (a); purplish to reddish-brown, or often light yellow stems.

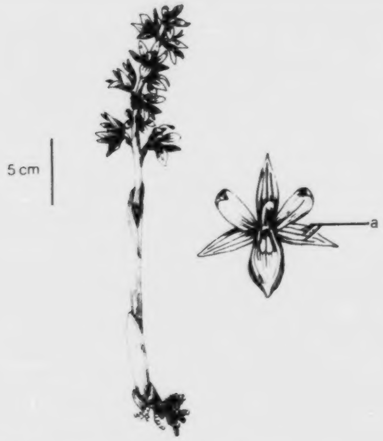
LEAVES — thin, semi-transparent sheaths.

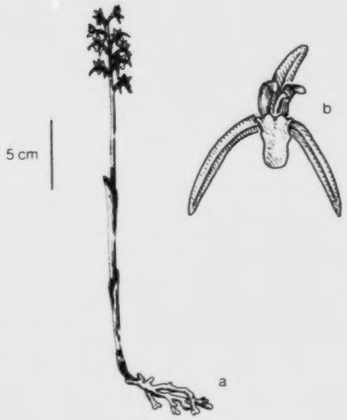
FLOWERS — 10-30, reflexed; sepals reddish-purple, 3-nerved; petals (b) pinkish with ***wine-red spots,*** lip (c) white and spotted.

HABITAT — moist to fairly dry woods, common on the coast and in the interior.

Orchids

Orchidaceae (Orchid family)





Corallorhiza striata

(Striped coralroot)

ORCHID, herb, 15-40 cm tall; stems purplish-tinged, stout.

LEAVES — thin, semi-transparent sheath.

FLOWERS — 7-30, pink to yellowish-pink with 3 reddish-brown to ***purplish stripes*** on the sepals (a).

HABITAT — in deep coniferous to deciduous forests, not found in the CWHf or CCPH.

Corallorhiza trifida

(Yellow coralroot)

ORCHID, herb, pale yellow to olive-yellow, 10-25 cm tall, with 2-5 sheathing bracts; ***rhizome*** (a) ***coral-like.***

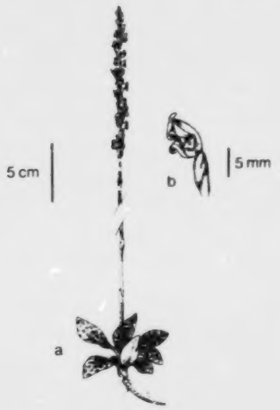
LEAVES — thin, semi transparent sheaths.

FLOWERS — (b) 3-15, perianth segments yellow or greenish-yellow to nearly white; ***lip nearly white,*** sometimes ***lightly red-spotted.***

HABITAT — usually in moist woods or bogs, montane to subalpine; in pine-hemlock stands in Kitwanga - Hazelton area. Generally distributed in the ICHg and SBS, ***not known on the coast.***

Orchids

Orchidaceae (Orchid family)



Goodyera oblongifolia

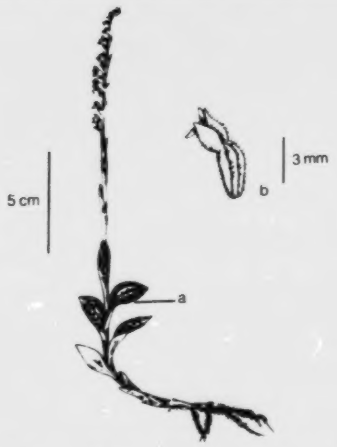
(Western rattlesnake plantain)

ORCHID, glandular-hairy, evergreen, perennial herb, ***25-40 cm tall.***

LEAVES — (a) ***basal, in a rosette,*** thick, dark green, ***mottled or striped with white, especially along midrib,*** oval-lance-shaped, 3-7 cm long.

FLOWERS — (b) many dull, white to greenish in elongated inflorescence, with most of the flowers oriented to one side.

HABITAT — dry to mossy or damp, open to dense forest in poor to medium - submesic-mesic coniferous forest in both coastal and interior sites. Common in lodgepole-pine-western hemlock-moss ecosystems.



Goodyera repens

(Northern rattlesnake plantain)

ORCHID, perennial evergreen herb, 10-15 cm tall, generally less robust than *G. oblongifolia*.

LEAVES — (a) oval-lance-shaped, ***midrib not white,*** 1.5-3 cm long.

FLOWERS — (b) white or pale greenish, in elongated inflorescence with all the flowers oriented to one side.

HABITAT — mossy to open and somewhat dry woods, interior zones only, not reported on the coast.

Orchids

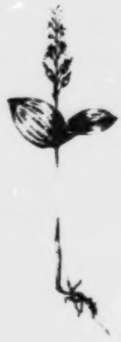
Orchidaceae (Orchid family)

KEY TO THE COMMON TWAYBLADES (*Listera* spp.)

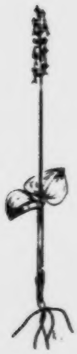
Adapted from Szczawinski, 1975

1a. Lip deeply cleft into linear pointed lobes; heart-shaped leaves .... *Listera cordata*

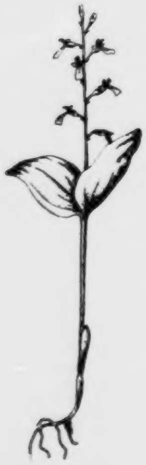
1b. Lip entire or shallowly cleft into blunt or rounded lobes; leaves rarely heart-shaped.
    2a. Lip retangular or longer than broad and ear-shaped at the base, provided with a pair of lateral teeth; leaves egg-lance-shaped, pointed at tip .... *L. borealis*
    2b. Lip wedge-shaped, provided with a pair of lateral teeth at base but not ear-shaped at base. Ovary without glands; lip sessile, not ciliate on the margin, with a slender tooth on each side at the base; leaves egg-shaped or pointed .... *L. caurina*



Listera borealis



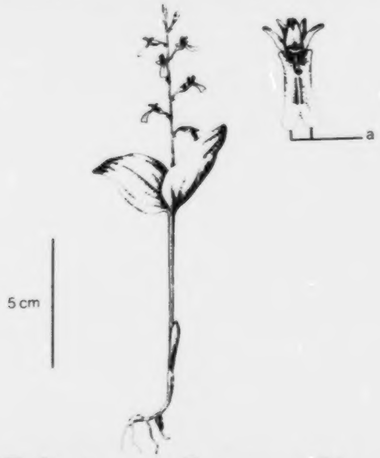
Listera cordata

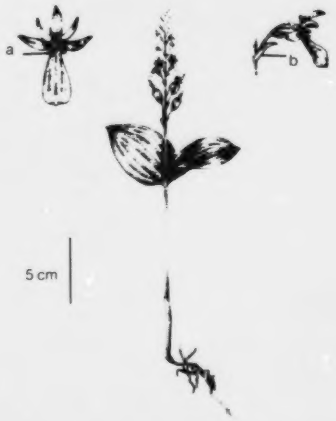


Listera caurina

Orchids

Orchidaceae (Orchid family)





Listera borealis

(Northern twayblade)

ORCHID, small herb, 7-25 cm tall, stem glabrous.

LEAVES — 2, nearly opposite to 1 cm apart, ***oval-elliptic,*** sessile; ***above midlength of stem.***

FLOWERS — 3-15, ***greyish to yellowish-green,*** in an open to congested, elongated inflorescence; lip oblong-oval, broadest at tip, ***shallowly bilobed*** (a), ***hairy.***

HABITAT — moist woods, often in moss along streams, especially in mountains. Apparently absent from the coast and infrequent in interior zones in this area.

Listera caurina

(Western twayblade)

ORCHID, herb 10-35 cm tall, stem smooth below leaves but strongly glandular-hairy above.

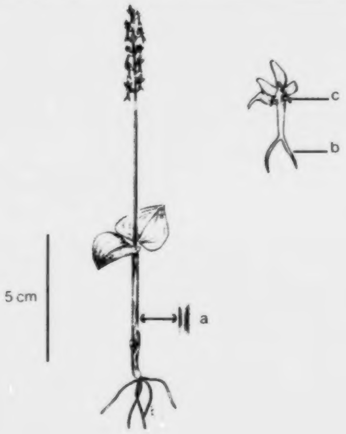
LEAVES — 2, almost opposite, ***well above midlength of stem,*** lance-shaped to egg-shaped.

FLOWERS — ***yellowish-green;*** lip sessile, not ciliate on the margin, ***with a slender tooth on each side at the base*** (a); inflorescence 5-25-flowered, open bracts (b) conspicuous.

HABITAT — moist forests and mossy streambanks to subalpine slopes.

Orchids

Orchidaceae (Orchid family)



Listera cordata

(Heart-leaved twayblade)

ORCHID, small herb, 6-20 cm tall, stem glabrous or glandular - hairy above leaves (a).

LEAVES — 2, broad, ***heart-shaped,*** sessile, opposite, ***near mid-length of stem.***

FLOWERS — inflorescence elongated, 5-16 flowered; ***pale green to purplish green; lip cleft into 2,*** linear lance-shaped lobes (b), and armed at base with a pair of horn-like teeth (c).

HABITAT — in damp, mossy places, along streams or in bogs. Widespread throughout coastal and interior zones in mesic and wetter sites, usually inconspicuous.

Orchids

Orchidaceae (Orchid family)

KEY TO THE COMMON REIN ORCHIDS *(Platanthera* spp.)

Adapted from Szczawinski, 1975

1a. Leaves 1 or 2, basal or essentially so; stem without bracts or provided with a solitary bract at or about the middle.

2a. Lip broad, elliptic to almost circular, deeply concave; spur pouch-shaped .... *Platanthera chorisiana*

2b. Lip linear not concave; spur elongated, tapering at the tip.

3a. Leaves solitary, broadly egg to linear lance-shaped, erect; spur up to 1.2 cm long .... *P. obtusata*

3b. Leaves 2, circular to broadly oval, spreading on the ground; spur more than 1.2 cm long .... *P. orbiculata*

1b. Leaves several, on the stem or sub-basal.

4a. Stem with a few leaf-like bracts; leaves scattered on the stem and persisting after time of flower expansion.

5a. Flowers usually white, rarely greenish, lip rhombic-lance-shaped, dilated at the base; spur equal to or sometimes exceeding the lip .... *P. dilatata*

5b. Flowers usually green or greenish, sometimes marked with purple, lip linear to broadly lance-shaped, not prominently dilated at the base.

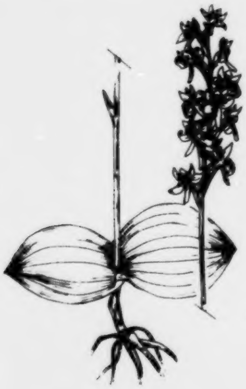
6a. Spur pouched-shaped or strongly bag-shaped; lip linear to lance-shaped, raceme elongate; not compact or tightly flowered .... *P. stricta.*

6b. Spur cylindrical; lip elliptic to lance-shaped; raceme short and tightly flowered .... *P. hyperborea*

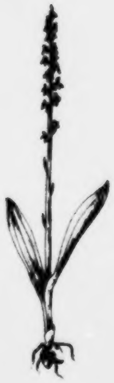
4b. Stem with numerous scale-like bracts; leaves clustered at or near the base of stem, usually withering before or during the time of flower expansion; spur about equal to the lip; raceme not compact or tightly flowered .... *P. unalascensis*

Orchids

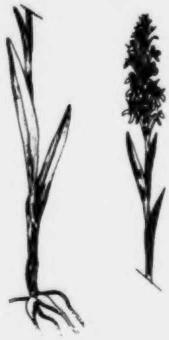
Orchidaceae (Orchid family)



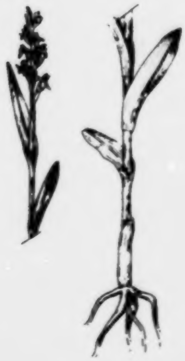
Platanthera orbiculata



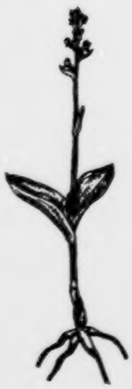
Platanthera unalascensis



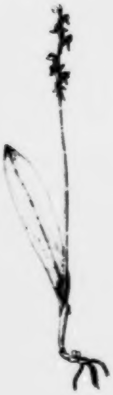
Platanthera dilatata



Platanthera hyperborea



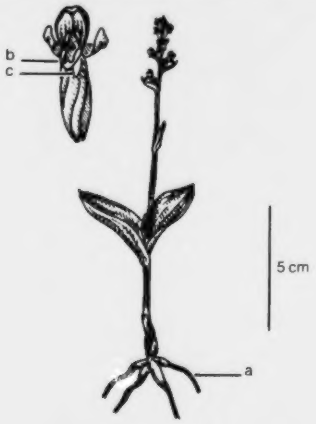
Platanthera chorisiana



Platanthera obtusata

Orchids

Orchidaceae (Orchid family)



Platanthera chorisiana

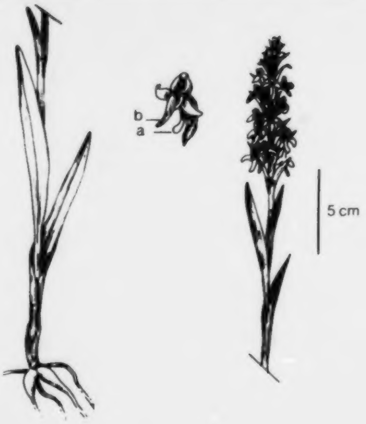
(Chamisso's rein orchid)

ORCHID, perennial herb, 5-15 cm tall from firm, ***fleshy, spindle-shaped roots (a);*** flower stem naked above sub-basal leaves or with 1 or 2 lance-shaped bracts.

LEAVES — ***2 or 3, almost basal,*** sheathing, egg-shaped to elliptic-lance-shaped.

FLOWERS — 5-18, ***greenish,*** sessile in crowded spike, lowest flowers exceeded by lance-shaped greenish bracts; ***lip*** (b) ***broad, elliptic to subcircular deeply concave, spur*** (c) ***pouch-shaped.***

HABITAT — moist areas especially at the edge of streams or bogs. A rare coastal species.



Platanthera dilatata

(Tall white bog-orchid)

ORCHID, perennial herb, slightly swollen at the base, 0.15 to 1 m tall.

LEAVES — gradually reduced upward, sheathing, oblong to broadly lance-shaped, ***stem leafy throughout.***

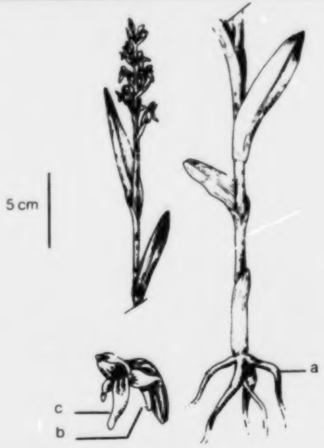
FLOWERS — 5-30, white to greenish-tinged, very ***fragrant,*** in a spike; ***spur*** (a) ***slender, cylindrical, curved, longer than lip*** (b).

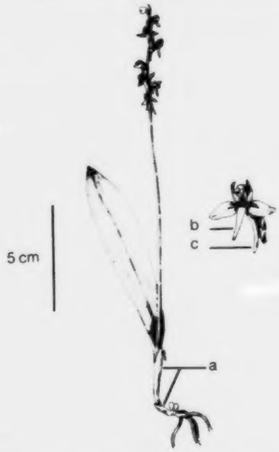
HABITAT — wet, often boggy ground, widespread throughout the province, more common on the coast than in the interior.

NOTE — *P. stricta* (slender rein orchid) closely resembles this species in appearance and habitat, but has greenish flowers and the spur is shorter, stout, and bag-shaped.

Orchids

Orchidaceae (Orchid family)





Platanthera hyperborea

(Northern green bog-orchid)

ORCHID, perennial herb, 0.2-1.0 m tall, with ***tuberous, thickened roots*** (a).

LEAVES — several, mostly on lower half of stem, narrowly oblong-elliptic to lance-shaped.

FLOWERS — sessile, lower bracts longer than flowers, upper bracts shorter; ***pale to deep greenish, often purplish-tinged or veined; spur*** (b) ***cylindrical; lip*** (c) ***elliptic to lance-shaped;*** inflorescence elongate, 5-15 cm long, ***densely flowered.***

HABITAT — moist to usually boggy places, sometimes on soil of calcareous origin, tolerant of deep shade. Most common in interior zones, scattered on the coast.

Platanthera obtusata

(One-leaved rein orchid)

ORCHID, perennial herb, 8-20 cm tall.

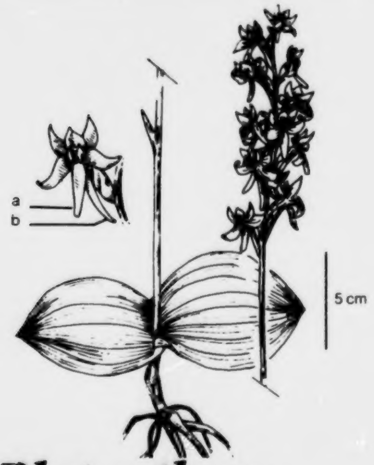
LEAVES — ***single basal leaf,*** elliptic-egg-shaped to oblong-egg-shaped but broadest above middle; 1 or 2 sheathing bracts (a).

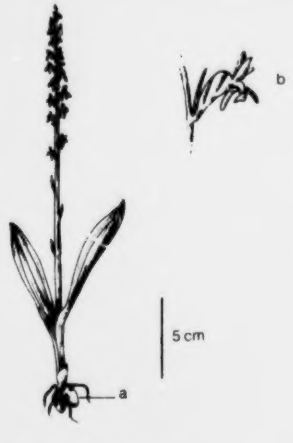
FLOWERS — inflorescence loosely 3-15-flowered; floral bracts green below, yellowish above; ***perianth pale greenish or yellowish-green, lip and petals sometimes whitish; lip*** (b) ***straight not concave; spur*** (c) ***elongated at the tip.***

HABITAT — swamps, bogs, alpine meadows and damp to wet forest areas in mountains. An interior species not known in coastal zones.

Orchids

Orchidaceae (Orchid family)





Platanthera orbiculata

(Large round-leaved rein orchid)

ORCHID, perennial herb, 20-60 cm tall.

LEAVES — ***usually 2,*** basal, opposite, ***lying on the ground,*** fleshy, round to oblong-elliptic, ***commonly found in vegetative state.***

FLOWERS — 5-25, pale to deep greenish-white, in a loose elongated inflorescence; ***lip*** (a) ***straight not concave, spur*** (b) ***elongated, tapering at the tip.***

HABITAT — primarily an interior species found in moist to dry mossy forests, swamps and bogs. Frequent in drier pine ecosystems.

Platanthera unalascensis

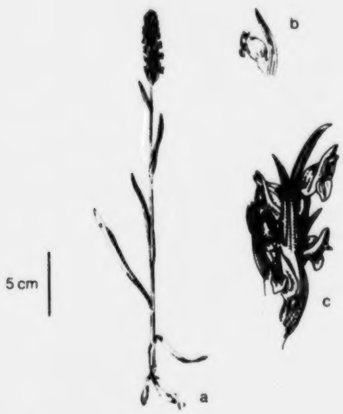
(Alaska rein orchid)

ORCHID, perennial herb, 20-60 cm tall, with 1-3 ***spherical to egg-shaped, fleshy tubers*** (a) mostly 1.5-3 cm long; leafless flower stem with inconspicuous bracts.

LEAVES — 2-4, on lower third of stem, ***closely clustered or basal, withering at flowering time,*** lance-shaped, base of leaves sheathing.

FLOWERS — (b) ***flowers fragrant,*** numerous, subsessile, ***spirally arranged;*** sepals a pale green; ***petals greenish to nearly white, sometimes purplish-tinged; spur equal to lip in length.***

HABITAT — dry woods, to gravelly streambanks and ***open mountain sides, meadows.*** Typically a species of the central interior, and found sporadically on the coast.



Spiranthes romanzoffiana

(Ladies' tresses)

ORCHID, perennial, mostly 10-60 cm tall, roots (a) clustered, enlarged, fleshy.

LEAVES — ***several, near base of stem, linear to narrowly oblong***, 8-20 cm long, ***abruptly transitional upward to short, sheathing, lance-shaped bracts.***

FLOWERS — elongate inflorescence ***crowded; flowers white or cream to greenish-white***, tubular (b), ***aligned in 1-4 spiralling vertical rows*** (c); ***floral bracts whitish or pale green; flowers sweet-scented;*** petals form a hood over the united stamens.

HABITAT — bogs, marshes, wet meadows, open woods and open pastures, common throughout coast and interior.

Composites

Asteraceae (Aster family)

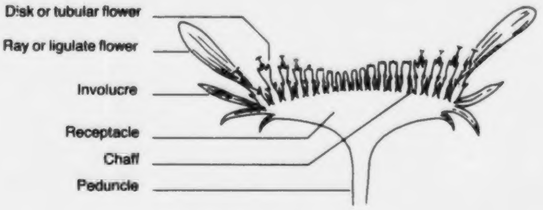
Features of the *Asteraceae* (Aster or Sunflower Family)

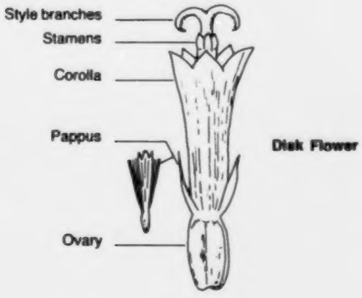
Members of this family are called "***composites***" because what seems to be an individual separate flower is actually ***a complex or composite of many flowers in a head attached to a common receptacle*** and surrounded by a whorl of what appear to be sepals of the flower but are, in fact, bracts (involucre).

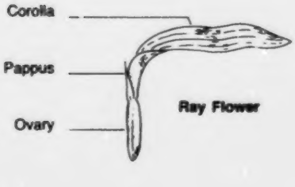
The heads can be of three forms:

(1) discoid - when all the flowers have the petals fused into tubular corollas (all disk flowers) e.g., *Tanacetum vulgare*, (Tansy), *Antennaria* spp. (Pussytoes)
(2) ligulate - when the corollas are all strap-shaped (all ray flowers) e.g.,*Taraxacum officinale* (Dandelion)
(3) radiate - when the outer corollas are ray flowers and the inner ones are disk flowers e.g., *Leucanthemum vulgare* (Daisy), *Arnica* spp. (Arnica), *Senecio* spp. (Groundsel)

The receptacle which supports the flower head is often covered with bracts or scales known as ***chaff.*** Attached to the top of the ovary is a pappus of hairs, bristles, or scales.

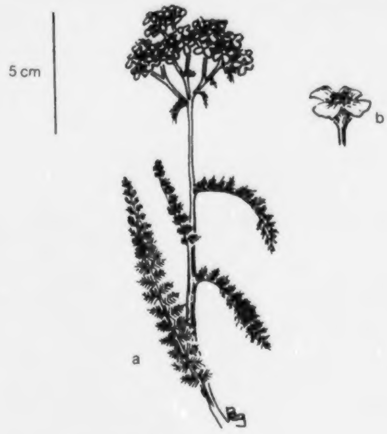

Disk or tubular flower
Ray or ligulate flower
Involucre
Receptacle
Chaff
Peduncle


Style branches
Stamens
Corolla
Pappus
Disk Flower
Ovary


Corolla
Pappus
Ray Flower
Ovary

Composites

Asteraceae (Aster family)



Achillea millefolium

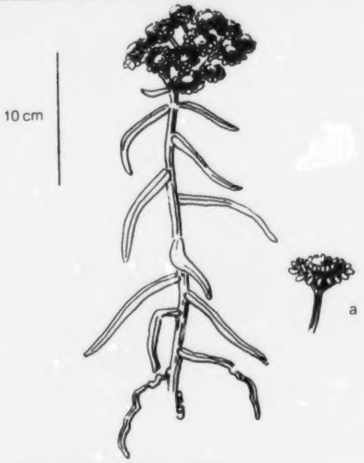
(Yarrow)

HERB, perennial ***aromatic, often rhizomatous*****,** 1-10 cm tall.

LEAVES — ***much pinnately dissected*** (a), only lower ones with petiole; young dried leaves used to make herbal tea.

FLOWERS — radiate heads (b) numerous, in flat to round topped inflorescence; ***rays 3-5 white, disk flowers yellow*****.**

HABITAT — often on disturbed sites; throughout B.C.



Anaphalis margaritacea

(Pearly everlasting)

HERB, perennial, erect, rhizomatous 20-90 cm tall, leafy, loosely white woolly.

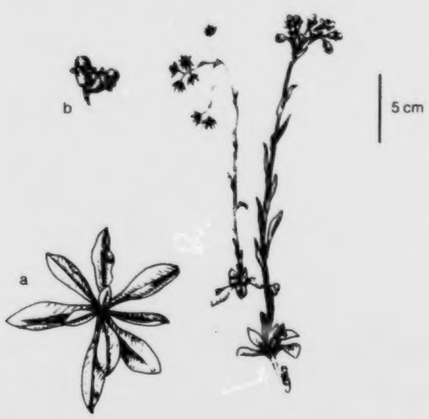
LEAVES — alternate, entire, ***narrowly oblong, sessile, less hairy above than below, edges rolled under.***

FLOWERS — numerous discoid heads (a), crowded into a short broad inflorescence; involucral ***bracts pearly white, preserving well when dried.***

HABITAT — occurring in forest openings, roadsides and pastures; lowlands to moderate elevations.

Composites

Asteraceae (Aster family)



Antennaria neglecta

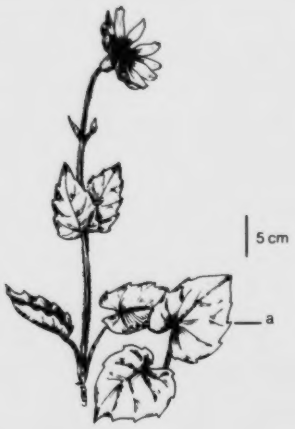
(Field pussytoes)

HERB, perennial, mat-formiing 15-40 cm tall, with well-developed stolons; stems with narrow, sessile leaves.

LEAVES — ***basal leaves*** (a) ***spatula-shaped,*** to almost elliptical lance-egg-shaped but largest above middle and tapering to base; ***persistently densely hairy with white hairs beneath, thinly hairy to without hairs and green above.***

FLOWERS — discoid heads (b) several in dense head-like inflorescence, ***soft and fluffy to touch; involucral bracts brown at base and tips white,*** thin and transparent.

HABITAT — occurring in open woods at moderate and low elevations in drier sites in the ICHg3 subzone.



Arnica cordifolia

(Heart-leaved arnica)

HERB, perennial from long, nearly naked rhizomes; stems solitary or few loosely clustered, 10-60 cm tall.

LEAVES — ***opposite,*** basal ones long-petiolate, ***heart-shaped,*** mostly on separate short shoots; stem leaves 2-4 pairs, more or less heart-shaped; often coarsely toothed (a).

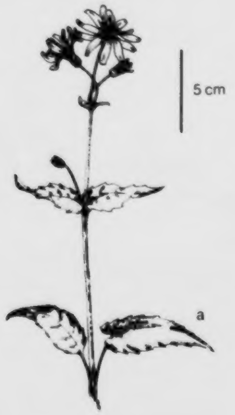
FLOWERS — 1-3 radiate heads, yellow, ***involucre densely white-hairy; achenes short-hairy throughout.***

HABITAT — mostly in woodlands, lower to high elevations in mountains.

NOTE — the opposite leaf arrangement distinguishes *Arnica* from all other genera in the Aster family.

Composites

Asteraceae (Aster family)



Arnica latifolia var. *latifolia*

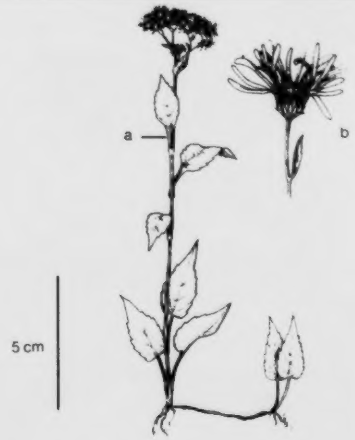
(Mountain arnica)

HERB, perennial, stem 10-60 cm tall, glandular and sometimes hairy; ***appearing more leafy than*** *A. cordifolia*.

LEAVES — ***opposite,*** basal ones long-petiolate, sometimes on separate shoots; stem leaves 2-4 pairs, more or less sessile, ***glandular-hairy;*** rarely heart-shaped, ***usually broadly lance-shaped*** (a).

FLOWERS — radiate heads, 1-several, yellow; ***involucre with few or no long hairs, achenes glabrous below or throughout.***

HABITAT — moist woods and meadows, moderate to high elevations.



Aster ciliolatus

(Lindley's aster)

HERB, perennial, with long creeping rhizomes, 0.2-1.2 m tall.

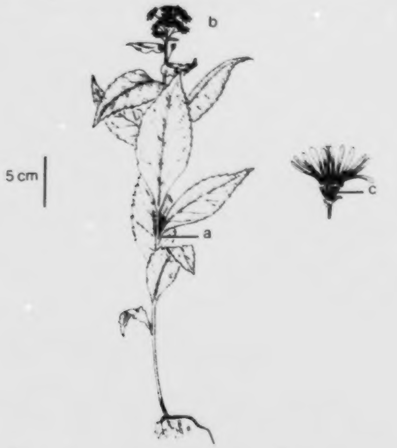
LEAVES — sharp-pointed at tip; ***basal and lower stem leaves with long petioles*** (a)***; blades broadly egg-shaped to lance-shaped, rounded or heart shaped at base,*** sharply serrate, often deciduous; upper leaves abruptly narrowed to the ***broadly winged petiole*** margin ciliate, often less toothed; uppermost leaves lance-shaped, sessile and entire.

FLOWERS — radiate heads (b) few in open inflorescence; ***ray flower blue, disk flowers yellow.***

HABITAT — woodlands and clearings. An interior species particularly common in mesic and moister seral stands of the ICHg3 and SBS.

Composites

Asteraceae (Aster family)



Aster conspicuus

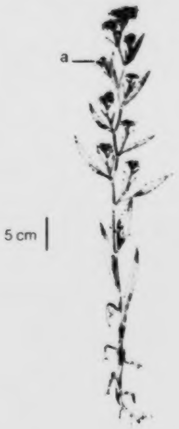
(Showy aster)

HERB, stout perennial with creeping rhizome, 0.3-1 m tall, strongly ***glandular above.***

LEAVES — firm, sharply toothed, oval, mostly ***sessile*** (a); the lower-most ones small and soon deciduous.

FLOWERS — radiate heads (b), few to many in an open inflorescence; rays blue or violet, and disk flowers yellow; ***involucre*** (c) ***densely glandular.***

HABITAT — open woods; low to moderate elevations. Very common in interior SBS and ICHg3, especially in seral aspen stands.



Aster subspicatus var. *subspicatus*

(Douglas' aster)

HERB, perennial, with elongate rhizome or thickened stem base, mostly 20-80 cm tall. ***Extremely variable species.***

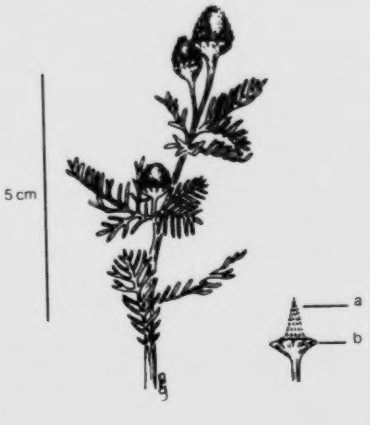
LEAVES — toothed, sharp-pointed at tip, without hairs; basal leaves smaller than stem leaves, often deciduous; ***stem leaves lance-shaped to oblong, or elliptic; lower leaves petiolate, middle or upper ones sessile and clasping.***

FLOWERS — radiate heads (a) solitary or few to several in round-topped clusters; ***ray flowers purple.***

HABITAT — seashores, streambanks, moist woods, meadows and roadsides. Found on the coast and in the interior.

Composites

Asteraceae (Aster family)



Chamomilla suaveolens

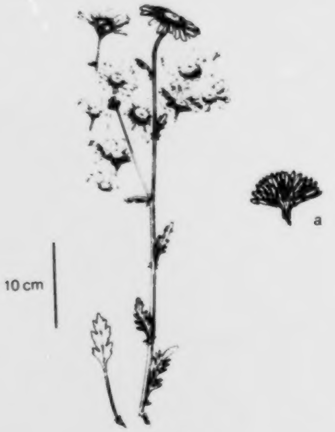
(Pineappleweed)

HERB, annual, 5-40 cm tall, branching, leafy, ***pineapple-scented,*** smooth.

LEAVES — stem leaves 1-5 cm long, 1-3 times pinnatifid, ultimate segments short, linear or thread-like, smooth; basal leaves withered by flowering time.

FLOWERS — discoid heads; disk flowers initially green, then yellow; receptacle (a) conic shaped; ***involucral bracts*** (b) ***below inflorescence with broad, thin, translucent margins;*** heads used for herbal tea.

HABITAT — roadsides and waste places.



Leucanthemum vulgare

(Oxeye daisy)

HERB, perennial with more or less well developed rhizomes; stem 20-80 cm tall, simple or nearly so.

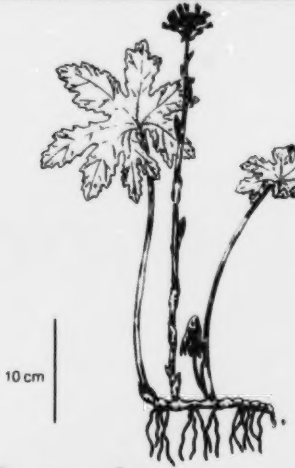
LEAVES — ***basal ones spatulate, petiolate,*** cleft or lobed; ***upper ones reduced, becoming sessile, blunt-toothed.***

FLOWERS — ***radiate head solitary, ray flowers white, disk flowers yellow;*** involucral bracts (a) with narrow dark brown marginal area.

HABITAT — fields, roadsides, waste places; weed of European origin.

Composites

Asteraceae (Aster family)



Petasites palmatus

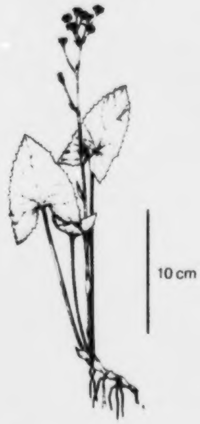
(Sweet colt's-foot)

HERB, perennial, from creeping rhizomes; stem erect, 10-50 cm tall.

LEAVES — basal leaves long petioled, hairy with white hairs beneath, ***palmately or pinnipalmately veined and lobed,*** serrate, expanding with or shortly after flowers; bracts on stem in shingled arrangement.

FLOWERS — inflorescence with several or numerous heads, ***heads bell-shaped; flowers whitish, appearing early in the year, usually before the leaves.***

HABITAT — meadows, swampy places, moist woods. Found throughout the Skeena area, most common in interior forests (ICH and SBS) where it rarely flowers.



Petasites sagittatus

(Arrow-leaved colt's-foot)

HERB, similar to *P. palmatus*.

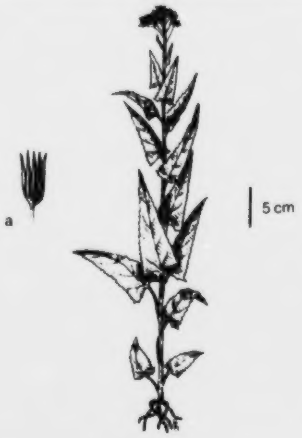
LEAVES — basal leaves serrate, with 20-45 teeth each side, or almost entire, pinnipalmately veined, heart-shaped or more commonly ***arrowhead-shaped;*** bracts of stem longer and narrower than *P. palmatus*.

FLOWERS — whitish.

HABITAT — found in places such as wet meadows and rich, wet marsh edges. Generally occurs on alluvial sites in the interior.

Composites

Asteraceae (Aster family)



Senecio triangularis

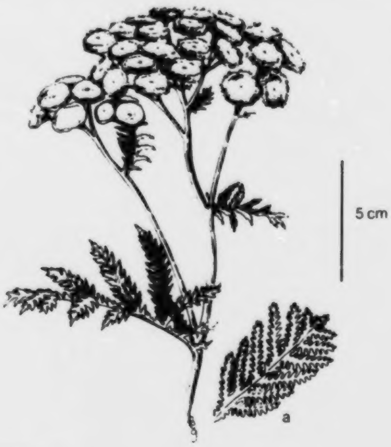
(Arrowleaved groundsel)

HERB, several-stemmed, coarse and lush perennial, 0.3-1.5 m tall.

LEAVES — numerous, ***narrowly triangular, strongly toothed;*** those ***near the base with long petioles,*** those ***above*** becoming ***sessile.***

FLOWERS — radiate heads, few to numerous, in short, flat-topped inflorescence; yellow ray flowers 8, disk flowers yellow; involucral bracts (a) equal, black-tipped.

HABITAT — streambanks and moist places; moderate to high elevations. A good indicator of subalpine (ESSF and MH) and Alpine Tundra zones. ***When abundant this species indicates areas of late snow cover.***



Tanacetum vulgare

(Common tansy)

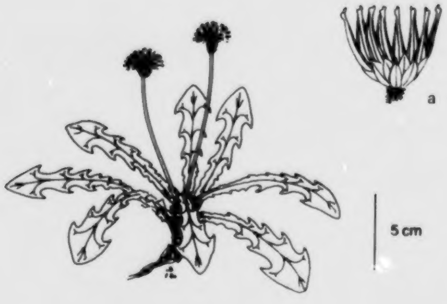
HERB, coarse aromatic, 0.4-1.5 m tall, from stout rhizome.

LEAVES — numerous, 1-2 cm long; ***dotted with small glandular pits;*** pinnatifid (a), pinnae pinnatifid or deeply lobed; pinnules toothed; basal leaves commonly withered by flowering time.

FLOWERS — heads discoid, numerous, commonly 20-200 flat-topped inflorescence; ***flowers golden yellow.***

HABITAT — roadsides, fields, waste places; native of Old World, escaped from cultivation. Common along the highway between Terrace and Prince Rupert.

Composites
Asteraceae (Aster family)



Taraxacum ceratophorum
(Horned dandelion)

HERB, robust from thickened stem to taproot, 5-25 cm tall.

LEAVES — ***lobed,*** without hairs, ***lance-shaped*** but broadest above middle, ***with broadly winged petiolar base.***

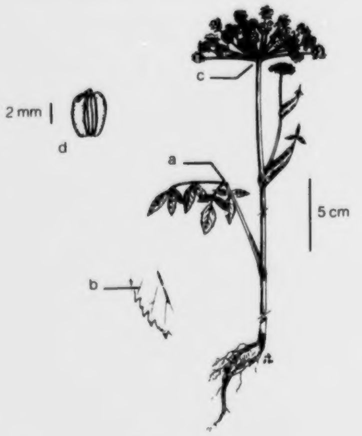
FLOWERS — ligulate heads large; ***involucral bracts*** (a), ***especially inner ones, tending to bear little horns or crests,*** outer ones wider and shorter than or equalling inner bracts appressed; ***ray flowers yellow.***

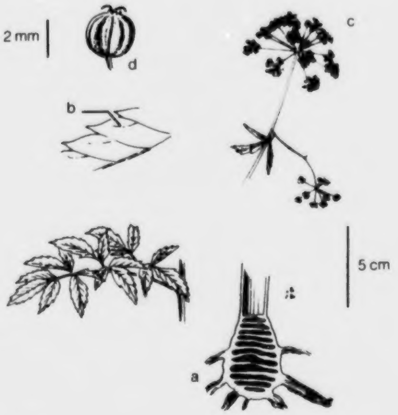
HABITAT — meadows and other moist places in mountains, ESSF zone.

NOTE — *T. officinale* (common dandelion), an introduced European weed, is also present in the Skeena area and is very similar to *T. ceratophorum*. *T. officinale* has reflexed outer involucral bracts as compared to appressed bracts in *T. ceratophorum*. In general the latter is less robust and the leaves less lobed than the first.

Other Herbaceous Plants

Apiaceae (Carrot family)





Angelica genuflexa

(White angelica)

HERB, leafy-stemmed perennial ***arising from erect simple stem base;*** often more than 1 m tall; ***the stem commonly covered in a fine, waxy powder.***

LEAVES — ***pinnae often deflexed*** (a), ternate-pinnately about twice compound; leaflets egg-shaped or lance-shaped to elliptic, coarsely serrate, ***veins tending to end at the points of the teeth*** (b), without hairs, or hairy only along veins beneath.

FLOWERS — generally several compound inflorescences with elongate flower stems which seem to arise from a common point (c); ***flowers white or pinkish.***

FRUIT — (d) glabrous, almost circular in outline; lateral wings broad, about as wide as body.

HABITAT — moist places; swamps, along streams.

Cicuta douglasii

(Water hemlock)

HERB, stout, 0.5-2 m tall; stems solitary or few together from ***tuberous-thickened and chambered base*** (a), several roots generally tuberous-thickened as well.

LEAVES — basal and on stem, 1-3 times ternate-pinnate, with well-defined, lance-linear to lance-egg-shaped, serrate, ***leaflets with lateral veins ending between the teeth*** (b).

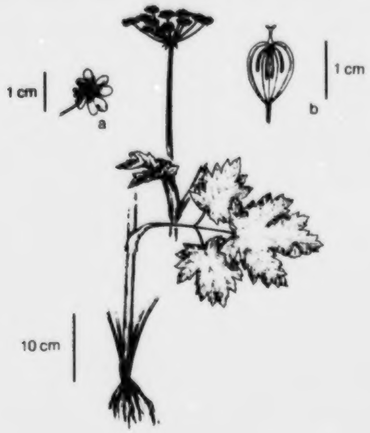
FLOWERS — ***white to greenish*** in several inflorescences with flower stems arising from a common point, like an umbrella (c).

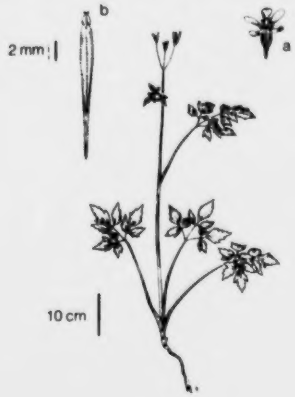
FRUIT — (d) round-egg-shaped to circular, with corky, thickened, unequal ribs.

HABITAT — marshes, edges of streams and ditches, and in other wet low places, from plains and lowlands to mountain valleys; ***all parts of plant are highly poisonous to man as well as to livestock.***

Other Herbaceous Plants

Apiaceae (Carrot family)





Heracleum sphondylium ssp. *montanum*

(Common cow-parsnip)

HERB, ***very large, hairy,*** single-stemmed perennial from stout taproot or cluster of fibrous roots, 1-3 m tall; stems hollow.

LEAVES — once ternate, with broad distinctly petiolate, coarsely toothed and palmately lobed leaflets, 10-30 cm long and wide, ***asymmetrical.***

FLOWERS — (a) with 5-10 deciduous narrow bracts beneath compound inflorescence, bractlets below secondary flower stems similar to bracts; ***flowers white.***

FRUIT — (b) egg-shaped to heart-shaped, with or without hairs.

HABITAT — streambanks, moist slopes, moist low ground, and woods; from lowlands to moderate elevations in mountains.

Osmorhiza chilensis

(Mountain sweet-cicely)

HERB, perennial with well developed taproot; stem solitary or sometimes 2-3, slender, 0.3-1 m tall, branched above.

LEAVES — twice ternately compound; leaflets coarsely serrated, thin; basal leaves several, long-stemmed; stem leaves 1-3, with short stem.

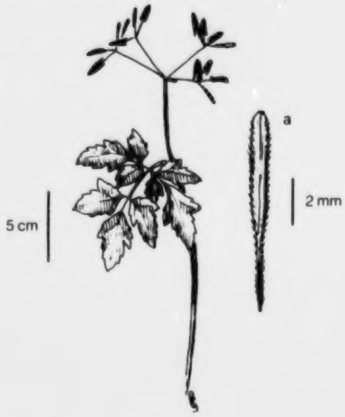
FLOWERS — (a) ***greenish-white,*** inconspicuous umbrella-shaped clusters.

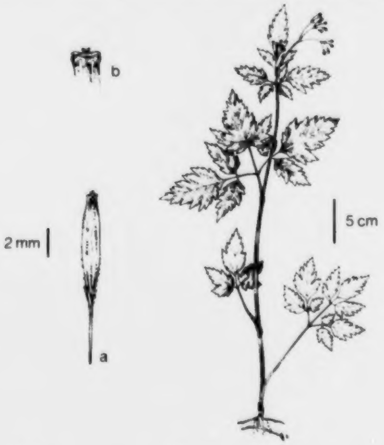
FRUIT — schizocarp, ***concavely narrowed at summit*** and ***broadly beak-like near apex*** (b), 12-22 mm long.

HABITAT — woodlands from sea level to moderate high elevations.

Other Herbaceous Plants

Apiaceae (Carrot family)





Osmorhiza depauperata

(Blunt-fruited sweet-cicely)

HERB, very similar to *O. chilensis.*

LEAVES — similar to *O. chilensis.*

FLOWERS — similar to *O. chilensis.*

FRUIT — ***convexly narrowed to rounded at summit*** (a) ***and not beak-like near the apex.***

HABITAT — similar to *O. chilensis.*

Osmorhiza purpurea

(Purple sweet-cicely)

HERB, 20-70 cm tall, very similar in appearance to *O. chilensis.*

LEAVES — ***triangular to circular in outline,*** 1-3 times ternate; leaflets lance-shaped to egg-shaped, coarsely round-toothed, incised or lobed.

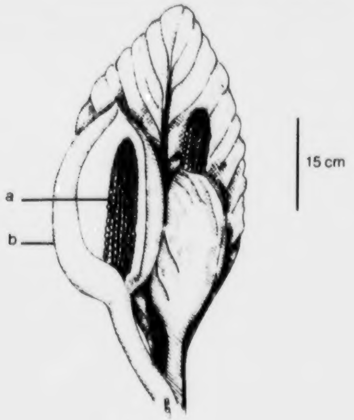
FLOWERS — rays 2-6; ***flowers purplish, pinkish or greenish-white.***

FRUIT — (a) ***linear-spindle-shaped,*** constricted below shortly beaked apex (b), 8-13 mm long.

HABITAT — meadows, streambanks, moist or wet open slopes in mountains, often at rather high elevations, less commonly in woodlands.

Other Herbaceous Plants

Araceae (Arum family)



Lysichiton americanum

(American skunk-cabbage)

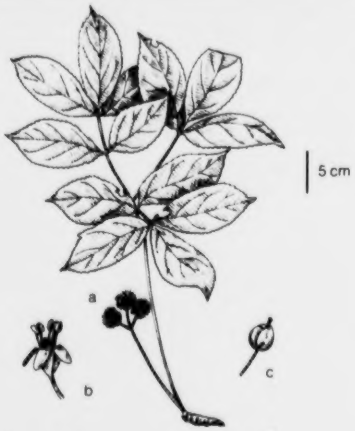
HERB, perennial with short, fleshy, erect underground stems.

LEAVES — large, 30-130 cm long and 10-70 cm wide, simple, oblong-oval, glossy green, with a ***skunk-like odor.***

FLOWERS — on a spadix (a), yellowish green; ***spathe*** (b) ***large, yellow.***

HABITAT — common in swampy soils, pond and lake margins and along streams. Common in the CWHf on open and forested sites with restricted drainage, sporadic in ICHg, absent from SBS.

Araliaceae (Ginseng family)



Aralia nudicaulis

(Wild sarsaparilla)

HERB, widely rhizomatous, perennial with ***stout, erect, woody stems barely reaching soil surface.***

LEAVES — generally single, 30-50 cm long, 3 times compound with leaflets pinnately compound and serrated.

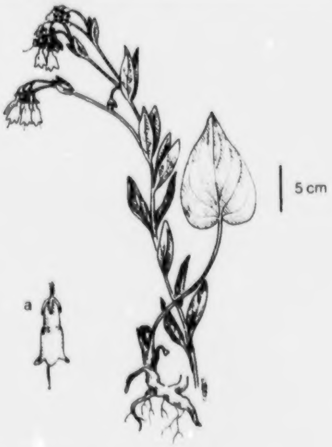
FLOWERS — flowering stem naked, shorter than leaf and topped with ***3-7 umbrella-shaped clusters*** (a) or balls of ***greenish-white flowers*** (b).

FRUIT — dark purple berries (c).

HABITAT — moist shaded forests, medium to rich sites, sporadic in CWHf, but a characteristic species of mesic-subhygric Aspen-Birch ecosystem associations and some moss sites in the ICHg. Also found in rich sites in the SBS. The Bella Coola Indians formerly made a beverage by boiling the rhizomes of this plant in water; it has similar medicinal properties to the tropical sarsaparilla.

Other Herbaceous Plants

Boraginaceae (Borage family) *Caprifoliaceae* (Honey suckle family)



Mertensia paniculata

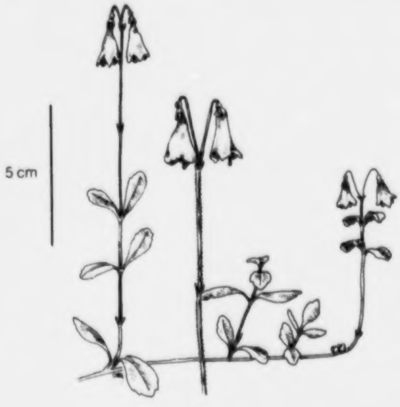
(Tall bluebell)

HERB; stems solitary to several from a somewhat woody base, 0.2-1.5 m tall.

LEAVES — ***prominently veined,*** oval; basal ones long petioled, blunt-tipped; stem leaves narrower, sharp-pointed, nearly sessile.

FLOWERS — in branched, open cluster of ***blue, bell-shaped*** (a), often nodding flowers.

HABITAT — streambanks, wet meadows, damp thickets, and wet cliffs; typically a boreal species. Probably restricted in distribution to N.E. of the Skeena area (SBS and ICHg).



Linnaea borealis

(Northern twinflower)

HERB, trailing, woody perennial with short, erect leafy stems, less than 10 cm long; more or less hairy.

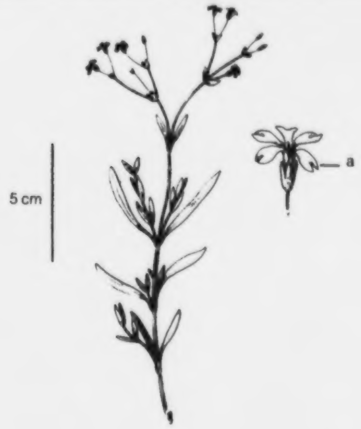
LEAVES — ***opposite,*** firm, broadly elliptic, with shallow teeth.

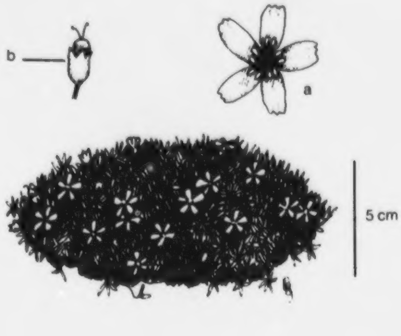
FLOWERS — ***paired, pink, bell-shaped flowers.***

HABITAT — in open or dense woods at various elevations. Widespread on a wide range of poor to medium rich and dry to moist sites.

Other Herbaceous Plants

Caryophyllaceae (Pink family)





Cerastium arvense

(Field chickweed)

HERB, perennial with trailing stems forming mats or clumps 30-40 cm broad; flowering stems 5-50 cm tall.

LEAVES — linear to narrowly lance-shaped; leaves of trailing and sterile stems narrowly oblong or oblong-egg-shaped; stem leaves (except uppermost) with cluster of secondary leaves or short sterile shoots in their axils.

FLOWERS — usually more than 5 in open inflorescence; ***petals white, about twice as long as sepals, deeply bilobed-obcordate*** (a).

HABITAT — coastal cliffs or grassy flats to inland valleys, rocky hillsides, and subalpine (occasionally alpine) dry to moist meadowland.

Silene acaulis

(Moss campion)

HERB, cushion-like perennial from woody roots and branched thickened stem base, forming thick mats up to 30 cm broad; stems 3-4 cm tall.

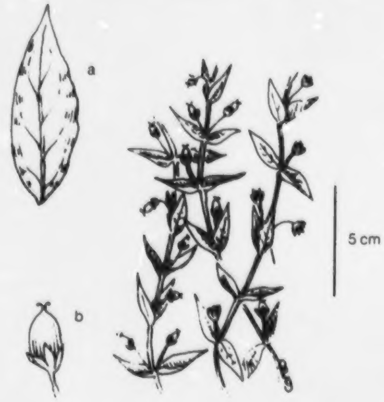
LEAVES — mostly basal, ***withering and persistent for many years,*** linear to linear-lance-shaped, sessile.

FLOWERS — (a) single; ***calyx tubular-bell-shaped*** (b), frequently pinkish; ***petals pink to lavender; plants having either male or female flowers.***

HABITAT — moist areas in high mountains, in rock crevices, alpine meadows, open slopes.

Other Herbaceous Plants

Caryophyllaceae (Pink family)



Stellaria crispa

(Crisp starwort)

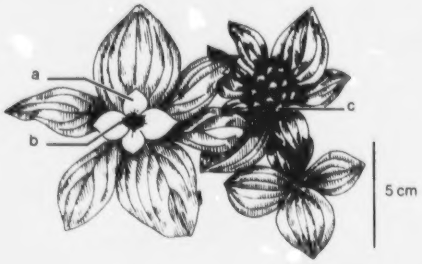
HERB, low, spreading, often matted from slender rhizomes; stems prostrate to ascending, 5-30 cm long.

LEAVES — lance-shaped to egg-shaped, sessile or lower ones short-petiolate, ***sharp-pointed at tip, thin, margins minutely crisped and translucent*** (a).

FLOWERS — single in axils and at stem tip; sepals 5; ***petals lacking or shorter than sepals;*** capsule (b) nearly twice as long as the sepals.

HABITAT — mostly lowlands or lower montane woods; wet soil in woods, on streambanks, and on beaches; in Devil's Club types throughout the Kitwanga-Hazelton area.

Cornaceae (Dogwood family)



Cornus canadensis

(Canadian bunchberry)

HERB, low, widely rhizomatous, 5-20 cm tall.

LEAVES — ***4-7 in terminal whorl,*** oval-elliptic, 2-8 cm long, green above, whitish beneath, ***veins parallel.***

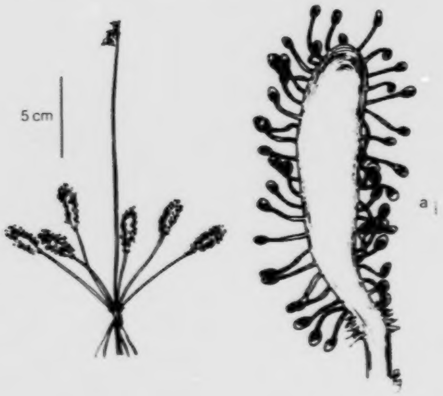
FLOWERS — in a solitary condensed cluster, ***with 4 white to purplish-tinged petal-like bracts*** (a) ***surrounding a central cluster of small greenish-white to purplish flowers*** (b).

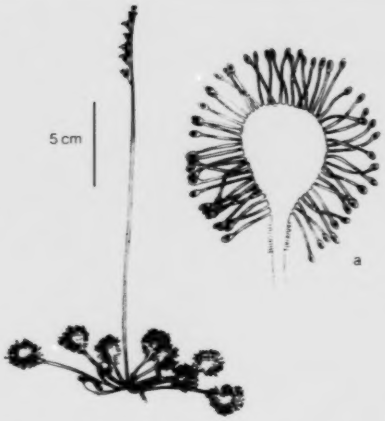
FRUIT — ***bright red drupes*** (c); although slightly pulpy they are sweet.

HABITAT — in dry to moist woods from sea level to subalpine. Widespread throughout the Skeena area especially in mesic medium rich sites. Best growth on richer sites.

Other Herbaceous Plants

Droseraceae (Sundew family)





Drosera anglica

(Long-leaved sundew)

HERB, ***insectivorous***, perennial, 5-17 cm tall.

LEAVES — ascending to erect, often reddish, covered with sticky glandular hairs (a) that trap insects, borne in basal rosette; ***blades narrowly oblong-lance shaped to spatula-shaped-oblong or triangular-egg-shaped***, 1-3 cm long; ***at least twice as long as broad;*** petioles 1.5-8 cm long.

FLOWERS — ***inflorescence 2-7 flowered***, flowers all on one side of axis; petals white; leafless stem of inflorescence 6-18 cm tall.

HABITAT — usually growing with mosses in wet sedge or *Sphagnum* bogs, also found in swamps, from sea level to subalpine locations.

Drosera rotundifolia

(Round-leaved sundew)

HERB, ***insectivorous***, perennial 5-25 cm tall.

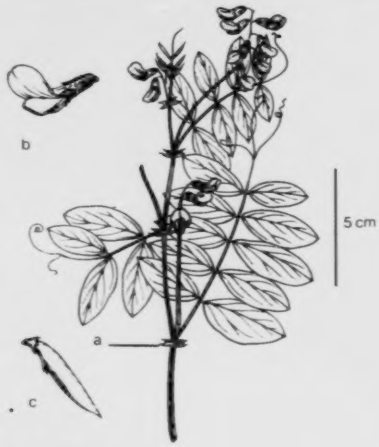
LEAVES — spreading, sticky glandular (a), borne in basal rosette; ***blades round to broadly egg-shaped-triangular***, 5-12 mm long; ***at least as broad as long;*** petioles 2-9 cm long.

FLOWERS — ***inflorescence 3-10 flowered***, all on one side of axis; petals white; leafless stem of inflorescence up to 25 cm tall.

HABITAT — swamps, *Sphagnum* bogs and wet meadows.

Other Herbaceous Plants

Fabaceae (Pea family)



Lathyrus nevadensis ssp. *lanceolatus* var. *pilosellus*

(Nuttall's pea)

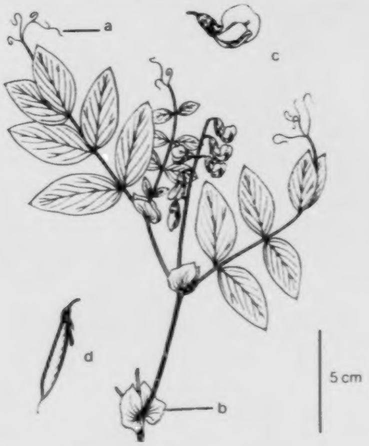
HERB, perennial with creeping rootstock and erect to clambering angled stems 15-80 cm tall.

LEAVES — with ***4-10 leaflets,*** 2-12 cm long, hairy on under surface, ***stipules*** (a) ***narrow, linear to lance-shaped;*** tendrils present.

FLOWERS — (b) in ***2-7*** flowered racemes, ***bluish-purple to mauve-red.***

FRUIT — a hairless pod (c).

HABITAT — open woods. A typically interior species that dominates the understory in many Aspen or mixed stands in the SBS and ICHg3.



Lathyrus ochroleucus

(Cream-flowered pea)

HERB, perennial with rootstock and more or less angled stems; 30-80 cm tall.

LEAVES — ***with mostly 6 leaflets*** and ***well developed tendrils*** (a), leaflets to 7 cm long, without hairs, ***stipules*** (b) ***broad, oval shaped.***

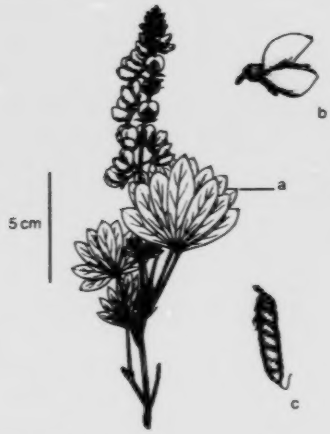
FLOWERS — (c) in racemes of 6-15 "pea-like" flowers, ***white to yellowish white.***

FRUIT — a hairless pod (d).

HABITAT — open woods and rocky slopes. A typically interior species with a similar habitat, but less cover than *L. nevadensis*.

Other Herbaceous Plants

Fabaceae (Pea family)



Lupinus arcticus

(Arctic lupine)

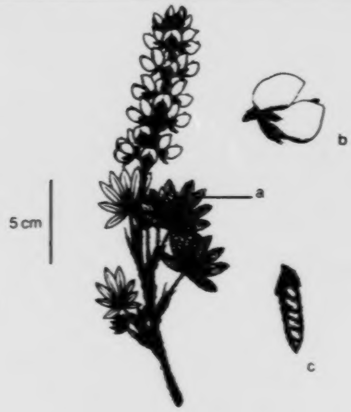
HERB, perennial with several stems arising from a branched rootstock; stems to 60 cm tall, slender, hollow, long-hairy.

LEAVES — mostly ***arising from near the rootstock; 6-8 leaflets with sharp, pointed tips*** (a), hairy on under surface; longest petioles mostly basal.

FLOWERS — several, ***bluish,*** in an elongated cluster; typical legume flower (b).

FRUIT — hairy legume (c).

HABITAT — mostly open ground; very common in B.C. Occurs on roadsides, in alpine meadows and open subalpine forests.



Lupinus nootkatensis

(Nootka lupine)

HERB, perennial with stout woody rootstock; stem erect, hairy, hollow to 1 m tall.

LEAVES — ***all arising from main stems; leaflets 5-8 broadly lance-shaped,*** hairy beneath (a), glabrous above; longest petioles cauline.

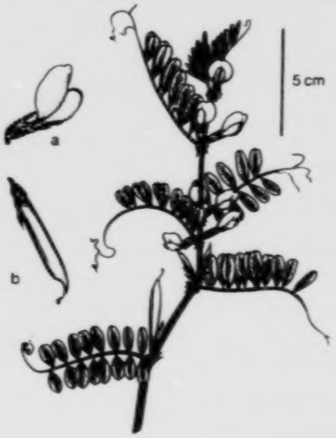
FLOWERS — blue, often shaded with pink or white (b) in a dense elongated cluster.

FRUIT — hairy legume (c).

HABITAT — damp maritime situations; mostly northern coastal.

Other Herbaceous Plants

Fabaceae (Pea family)



Vicia americana

(American vetch)

HERB, perennial, trailing or climbing, naked to hairy stems, 15-80 cm tall.

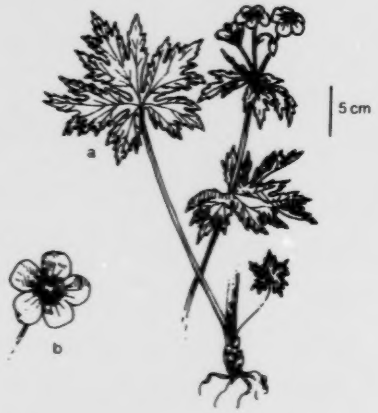
LEAVES — simple or branched tendrils; with ***8-18 leaflets,*** leaflets to 35 mm long.

FLOWERS — (a) in ***loose raceme of 3-9 pea-like flowers, bluish-purple to reddish-purple.***

FRUIT — glabrous pod (b).

HABITAT — fields, thickets, and open woods. An interior species most common on seral aspen sites in the ICHg3 and SBS.

Geraniceae (Geranium family)



Geranium erianthum

(Northern crane's bill)

HERB, perennial with stems from thick, long scaly woody base.

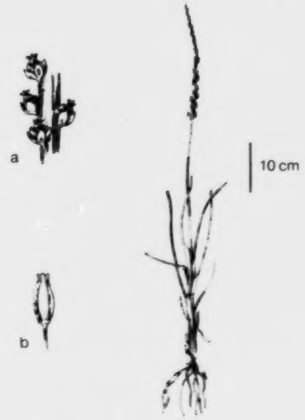
LEAVES — deeply cleft into 3-5 irregularly lobed segments (a).

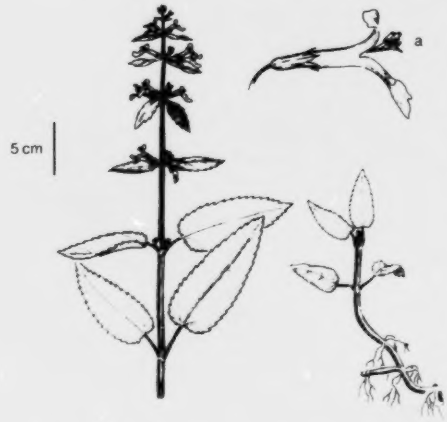
FLOWERS — (b) 3-5, ***rose or violet,*** in loose cluster; petals twice as long as sepals.

HABITAT — forests and meadows to above timberline.

Other Herbaceous Plants

Juncaginaceae (Arrow-grass family) *Lamiaceae* (Mint family)





Triglochin maritimum

(Sea-side arrow-grass)

HERB, semi-aquatic, perennial with heavy woody rhizomes, covered with whitish leaf bases; with several fleshy leaves at top; flowering stems 0.3-1.2 m tall, ascending.

LEAVES — blades fleshy ***somewhat flattened, blunt,*** linear.

FLOWERS — (a) inflorescence much more than half total length of plant, ***very closely flowered;*** perianth segments ***greenish or yellowish.***

FRUIT — (b) oblong to oblong-egg-shaped, six ovoid carpels, completely deciduous.

HABITAT — marshy to moist and gravelly areas, mostly where saline or alkaline; salt marshes, primarily coastal.

Stachys cooleyae

(Cooley's hedge-nettle)

HERB, rhizomatous perennial, 0.7-1.5 m tall; square stem with bristles pointed downward on the 4 angles.

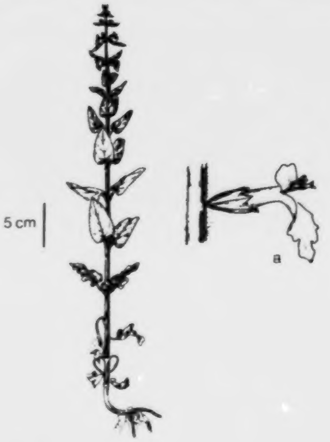
LEAVES — hairy both sides, petiolate, gradually reduced and shorter-petiolate upward; middle blades triangular-egg-shaped to heart-shaped-egg-shaped, coarsely round-toothed.

FLOWERS — (a) inflorescence a series of whorls of flowers, ***petals deep red-purple.***

HABITAT — swamps and moist low ground.

Other Herbaceous Plants

Lamiaceae (Mint family) *Lentibulariaceae* (Bladderwort family)



Stachys mexicana

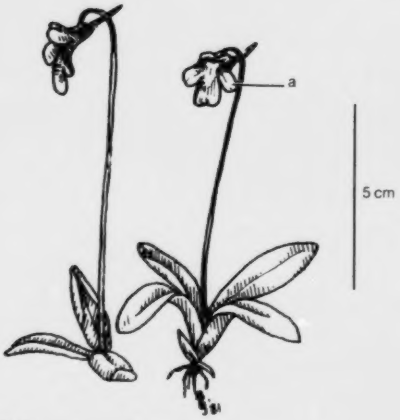
(Mexican betony)

HERB, similar in habit to *S. cooleyae*, but smaller, only 30-80 cm tall.

LEAVES — similar to *S. cooleyae*.

FLOWERS — (a) corolla pink or pink-purple, distinctly paler and smaller than *S. cooleyae*; the tube 8-13 mm long.

HABITAT — swamps and moist woodlands, chiefly near coast.



Pinguicula vulgaris

(Common butterwort)

HERB, fibrous-rooted perennial.

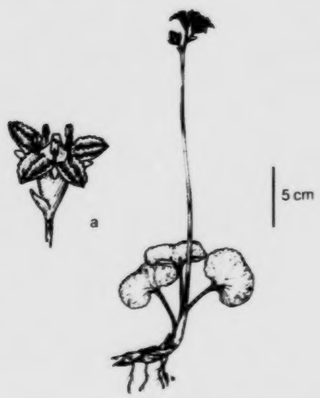
LEAVES — fleshy, ***margins rolled backward,*** broadly lance-shaped but broadest above middle, or almost elliptic; short petiolate; ***slimy on upper surface, digesting small insects which stick to the surface.***

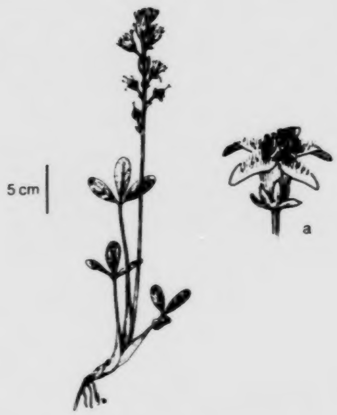
FLOWERS — stems of inflorescence 5-15 cm high; ***petals lavender-purple or rarely white;*** spur present; flowers (a) with flaring throat and broad, rounded lobes, nodding.

HABITAT — bogs and wet soil in mountains, bare soil, beaches, meadows, and mossy seepage sites. Common in the CCPH (coastal muskeg) zone.

Other Herbaceous Plants

Menyanthaceae (Buckbean family)





Fauria crista-galli ssp. *crista-galli*

(Deer-cabbage)

HERB, perennial, rhizomes, thick and fleshy, covered with old leaf bases.

LEAVES — petioles 20 to 30 cm long; ***leaf blades heart-shaped-egg-shaped,*** broadly kidney-shaped or kidney-shaped-heart-shaped but with notch at tip; round-toothed.

FLOWERS — (a) top-shaped, ***white;*** inflorescences open, loosely flowered.

HABITAT — bogs, swamps, wet meadows, and seepage sites. Restricted to the coast, sea level to subalpine elevations. Common in wet coastal muskegs.

Menyanthes trifoliata

(Buckbean)

HERB, ***perennial bog plant;*** rhizomes thick, covered with old leaf bases; stems prostrate or floral branches ascending.

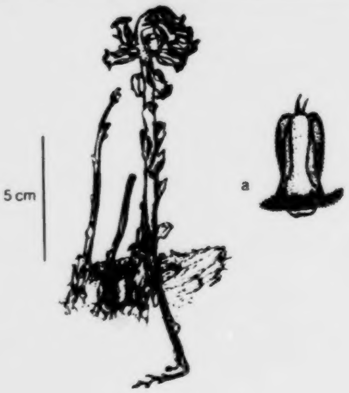
LEAVES — alternate, crowded near base of flowering stem, ***3-foliate,*** petioles 10 to 30 cm long; leaflets elliptic-egg-shaped.

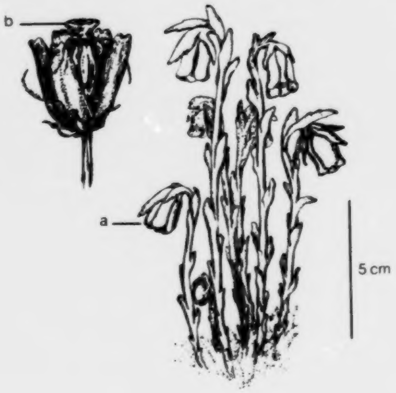
FLOWERS — (a) ***whitish,*** usually purplish-tinged, ***petals clothed in scaly hairs;*** anthers purplish; inflorescence stem 5-30 cm long, flower stems bracteate-based.

HABITAT — wet boggy marshes, bogs, lake and pond margins. Widespread in both coast and interior.

Other Herbaceous Plants

Monotropaceae (Indian-pipe family)





Hypopitys monotropa

(Pinesap)

HERB, 5-25 cm tall, ***pinkish to straw-coloured,*** drying to black, usually densely pubescent.

LEAVES — entire to fringed, scale-like.

FLOWERS — (a) ***several to many*** in a terminal raceme, inflorescence usually curved backward in flower, becoming erect in fruit; ***petals hairy on one or both surfaces,*** overlapping, somewhat sac-like at base, erect.

FRUIT — a capsule.

HABITAT — ***in humus of chiefly coniferous forests;*** in lodgepole pine-hemlock-moss forest in the Kitwanga-Hazelton area. Mesic to submesic moss sites, coast and interior.

Monotropa uniflora

(Indian-pipe)

HERB, ***saprophytic,*** with cluster of flowering unbranched stems 5-25 cm tall, ***waxy-white,*** blackening with age.

LEAVES — lance-shaped to ovate, scale-like.

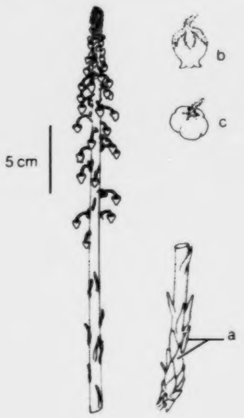
FLOWERS — (a) ***solitary,*** 1.5 - 2 cm long, narrowly bell-shaped, curved to one side or drooping, becoming erect in fruit (b); petals sac-like at base; conspicuously broadened at base.

FRUIT — a capsule.

HABITAT — deep shaded coniferous forest. Primarily found in coastal forest, very rare, as far east as Hazelton, probably absent from SBS in the Skeena area.

Other Herbaceous Plants

Monotropaceae (Indian-pipe family) *Nymphaeceae* (Water-lily family)



Pterospora andromedea

(Pinedrops)

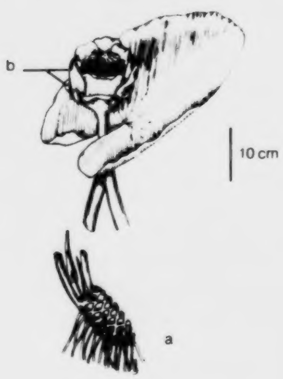
HERB, ***saprophytic*** plants, unbranched 0.3-1 m tall.

LEAVES — scale-like leaves (a), yellowish to reddish brown; ***dried stems remaining for one or more years.***

FLOWERS — (b) ***pale yellow,*** urn-shaped, in an elongated raceme, 5-8 mm long, drooping on their stalk.

FRUIT — depressed globose capsule (c) to 12 mm broad.

HABITAT — deep humus in coniferous forests, especially under pine. Common in the Hazelton area.



Nuphar lutea ssp. *polysepala*

(Yellow pond-lily)

HERB, perennial from a thick submerged rhizome (a).

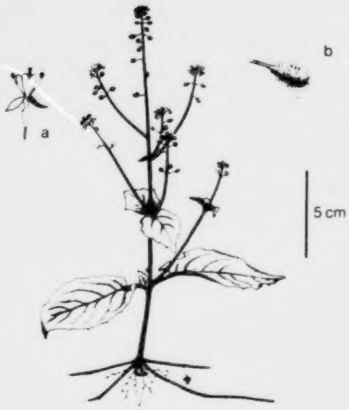
LEAVES — floating (sometimes partially or wholly immersed), leaf stem up to 2 m long, leaf blade 10-40 cm long, leathery, cordate.

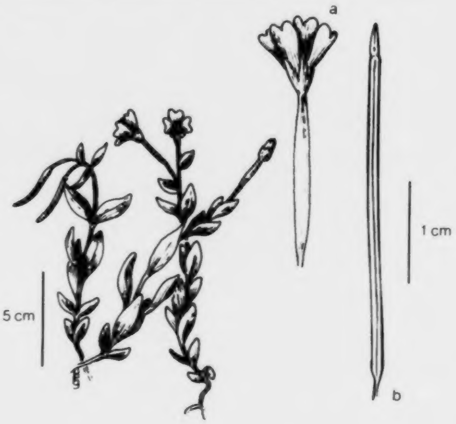
FLOWERS — ***sepals*** (b) ***9, outer ones leathery, more greenish, shorter, inner ones bright yellow to reddish-tinged;*** petals lance-shaped, thick, inconspicuous, greenish-yellow, somewhat purplish-tinged; stamens numerous, reddish or purplish.

HABITAT — ponds, shallow lakes, sluggish streams.

Other Herbaceous Plants

Onagraceae (Evening-primrose family)





Circaea alpina

(Enchanter's-nightshade)

HERB, ***highly variable taxon***, perennial from slender rootstock, 10-50 cm tall, simply to freely branched, tender and juicy.

LEAVES — heart-shaped to ovate, toothed, short-hairy especially on lower surface, petioles narrowly winged.

FLOWERS — (a) ***small, white to pink***, borne in racemes; petals two-lobed.

FRUIT — (b) top-shaped, covered with hooked or straight hairs.

HABITAT — in cool, damp woods, often along streams; mostly in mountains. In rich, moist sites in CWHf and ICHg, in subhygric-hygric Devil's club-lady fern-skunk cabbage sites, alluvial black cottonwood ecosystems.

Epilobium anagallidifolium

(Alpine willowherb)

HERB, ***low, matted perennial***, spreading by rhizomes and stolons, 5-30 cm tall.

LEAVES — ***generally opposite***, about equally spaced, sessile to short-petiolate, linear to egg-shaped, 1-5 cm long.

FLOWERS — (a) ***few***, petals white to dark-pink or lilac-rose, ***notched***.

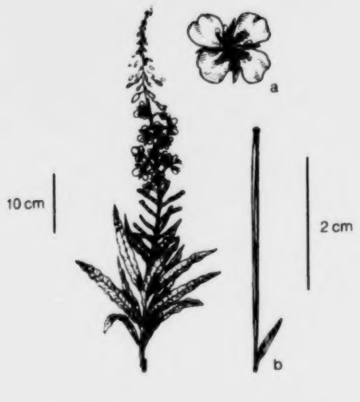
FRUIT — linear to club-shaped capsule (b); seed 1 mm long.

HABITAT — moist banks and rocks, talus slopes, mountain meadows, near seepage sites and springs, along streams, often above timberline.

NOTE — *E. latifolium* (Dwarf fireweed) also occurs in the Skeena area and differs from *E. anagallidifolium* in being non-rhizomatous and having petals 4-5 times larger. It is found in river bars, along streams and on drier subalpine to alpine slopes.

Other Herbaceous Plants

Onagraceae (Evening-primrose family) *Orobanchaceae* (Broomrape family)



Epilobium angustifolium

(Fireweed)

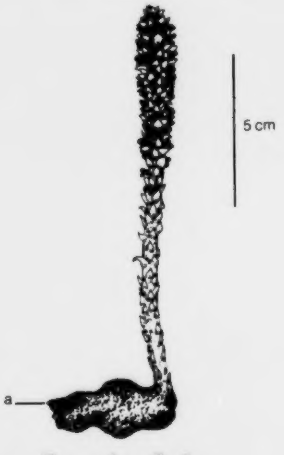
HERB, perennial from rhizome-like roots; ***stems usually simple***, 1-3 m tall.

LEAVES — ***alternate***, narrowly lance-shaped, veins visible on under surface.

FLOWERS — (a) several, rose to purple, in ***elongated terminal cluster***.

FRUIT — narrow green to red dehiscent seed pod (b).

HABITAT — common on disturbed sites especially on burned sites; from sea level to subalpine, also in moist seral spruce-lodgepole pine-aspen forests of the ICHg3 and SBS.



Boschniakia rossica

(Northern ground-cone)

HERB, ***parasitic*** 10-40 cm tall, from a corm-like base (a), stems several.

LEAVES — scale-like triangular to egg-shaped, sharp-pointed, yellowish to purplish, entire to minutely shredded or short-ciliate; 3-10 mm long.

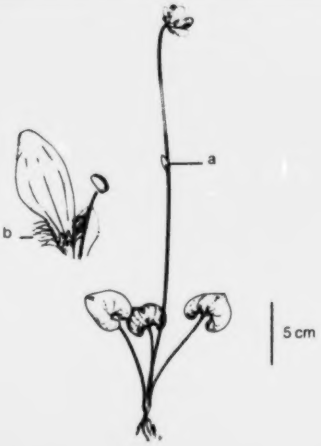
FLOWERS — ***purplish***, many-flowered inflorescence 6-25 cm long; bracts egg-shaped, sharp-pointed or blunt, minutely shredded to ciliate.

FRUIT — a capsule.

HABITAT — thickets, woodlands and heath; most commonly found parasitic on roots of *Alnus* spp. particularly those of *Alnus viridus* also reported on roots of *Betula, Vaccinium, Picea, and Salix* spp.

Other Herbaceous Plants

Parnassiaceae (Grass-of-Parnassus family) *Polemoniaceae* (Phlox family)



Parnassia fimbriata var. *fimbriata*

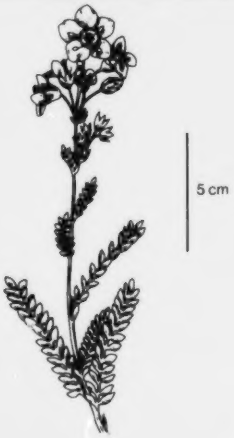
(Fringed grass-of-Parnassus)

HERB, plant with short, stout, slightly ascending to erect rootstock; flowering stem 1-several, with a clasping leaf (a) about half way up or more on the stem.

LEAVES — broad kidney-shaped, basal, glossy green.

FLOWERS — ***white, with bottom of petals fringed with hairs in a comb-like arrangement*** (b), and petals nearly twice as long as sepals.

HABITAT — in damp mountain meadows and along alpine streams. Occasionally found in wet places at lower elevations.



Polemonium pulcherrimum

(Showy Jacob's-ladder)

HERB, 5-30 cm tall, with several loosely erect, clustered stems from branched thickened stem base which surmounts a tap-root; plants glandular or glandular-hairy.

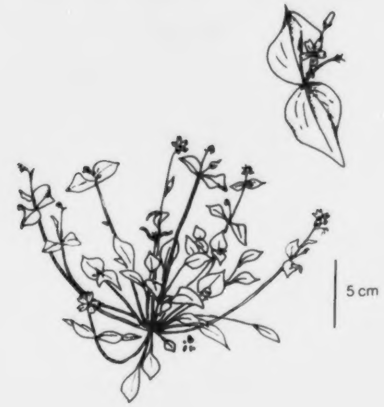
LEAVES — basal leaves pinnately compound, tufted, stem leaves reduced; ***leaflets 11-25, opposite or offset***, egg-shaped to circular.

FLOWERS — bell-shaped; inflorescence congested, scarcely headlike; ***petals blue, with yellow tube.***

HABITAT — moist or shaded places, exposed slopes or exposed sites above timberline, often on gravelly soil moderate to high elevations in mountains and roadsides in the Kitwanga-Hazelton area.

Other Herbaceous Plants

Portulacaceae (Purslane family)



Claytonia sibirica

(Siberian springbeauty)

HERB, plants annual or short-lived perennials; stems several, 1-5 cm tall.

LEAVES — basal leaves many, blades lance-shaped or elliptic to diamond-shaped-egg-shaped, petioles 2-3 times length of blade; stem leaves 2, opposite, sessile to short-petiolate, egg-shaped-diamond-shaped to broadly lance-shaped.

FLOWERS — inflorescences 2 or 3, many-flowered, up to 30 cm with conspicuous bracts; ***petals 5, white to deep pink.***

HABITAT — moist, shaded places; from lowlands to middle elevations in mountains. Primarily found in coastal areas of the Skeena.

Other Herbaceous Plants

Pyrolaceae (Wintergreen family)

KEY TO COMMON WINTERGREENS *(Pyrolaceae)*

Adapted from Szczawinski, 1962

1a. Leaves cauline, styles short and inconspicuous; filaments enlarged and hairy .... *Chimaphila umbellata*

1b. Leaves mostly vasal, styles elongate, conspicuous; filaments not enlarged or hairy.

  2a. Flowers broad, white, solitary, terminal on scapes; leaf blades egg-shaped-elliptic .... *Moneses uniflora*

  2b. Flowers 2 or more, racemose.

    3a. Style straight or nearly so; without a collar or ring below the shield-shaped stigma; anthers without projecting tubes.

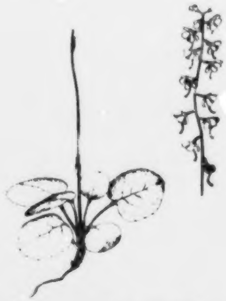
      4a. Flowers all on one side of the stem; style projecting at the time of expansion of the flower; leaves finely serrated .... *Orthilia secunda* ssp. *secunda*

      4b. Flowers not all on one side of stem; style not projecting at time of flower expansion; leaves with small rounded teeth .... *Pyrola minor*

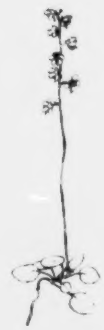
    3b. Style bent to one side at time of flower expansion, often with a collar or ring below the stigma; with short projecting tubes.

      5a. Petals pink to rose or purplish-red; sepals much longer than broad .... *Pyrola asarifolia*

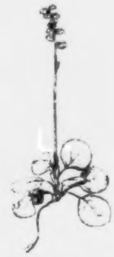
      5b. Petals pale yellowish; sepals rounded, broader than long .... *Pyrola chlorantha*



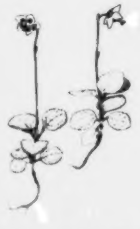
Pyrola asarifolia



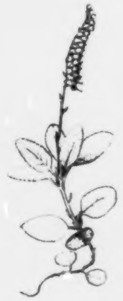
Pyrola chlorantha



Pyrola minor



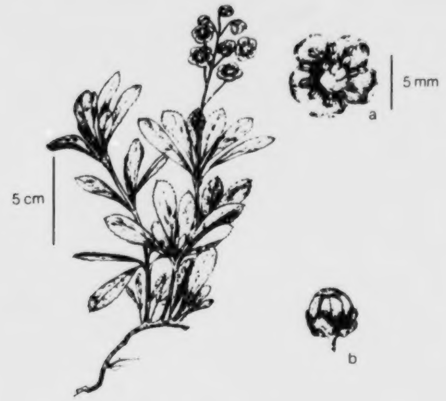
Moneses uniflora



Orthilia secunda ssp. ***secunda***

Other Herbaceous Plants

Pyrolaceae (Wintergreen family)



Chimaphila umbellata ssp. *occidentalis*

(Prince's-pine)

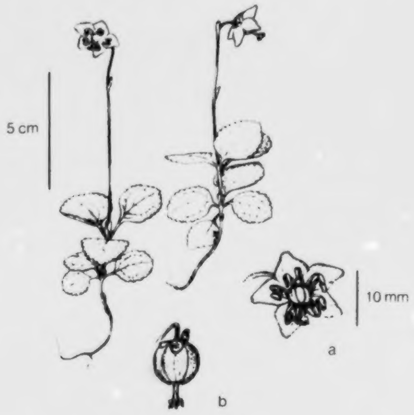
HERB, evergreen, quite stout, slightly woody perennial with creeping rootstock; stem to 35 cm tall, simple or branched, greenish, without hairs.

LEAVES — ***whorled,*** bright green and shiny above, narrowly oblong, sharply toothed.

FLOWERS — (a) 3-10 in a small, loose cluster; petals white to pink and waxy; ***flower stem with fine hairs.***

FRUIT — depressed globose capsule (b) to 7 mm broad.

HABITAT — dry woods, often on rotting wood in coniferous forests. Found in poor to medium, mesic to submesic sites on the coast and in the interior.



Moneses uniflora

(Single delight)

HERB, delicate, evergreen, arising from a very slender rhizome, up to 15 cm tall; a very distinctive and attractive plant when in flower.

LEAVES — ***opposite or mostly in whorls of 3,*** thin and obscurely veined, with margin serrated, ***usually obovate.***

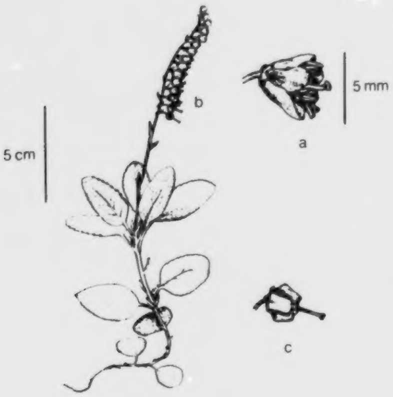
FLOWERS — (a) ***white, waxy, solitary, terminal,*** nodding; on a stem with one or two bracts.

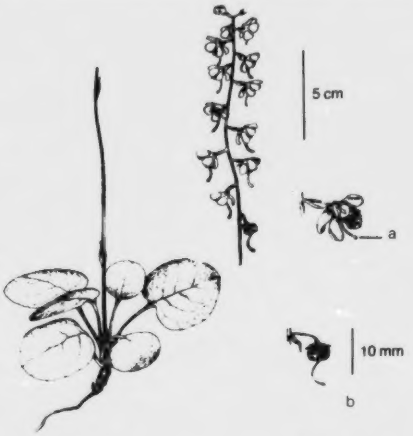
FRUIT — globose capsule (b) to 8 mm broad.

HABITAT — open to dense coniferous forests, with moss understory, moist woods and banks in humus soils or on rotting wood.

Other Herbaceous Plants

Pyrolaceae (Wintergreen family)





Orthilia secunda ssp. *secunda*

(One-sided wintergreen)

HERB, perennial with a slender much-branched rhizome; stem single, leafy towards base and often woody.

LEAVES — ***numerous, oval elliptical, serrated,*** dark green above, paler beneath.

FLOWERS — (a) ***6-20 on elongated cluster with flowers directed to one side (secund)*** (b), ***petals light greenish to white,*** style straight.

FRUIT — depressed globose capsule (c) to 5 mm broad.

HABITAT — widely distributed throughout coastal and interior forests, often in clearcuts in Kitwanga-Hazelton area.

Pyrola asarifolia

(Common pink pyrola)

HERB, perennial, with long, creeping, branched rootstock; flowering stem up to 40 cm tall.

LEAVES — petiole as long as blade; circular to elliptic, leathery, ***shiny dark green on top, purplish beneath.***

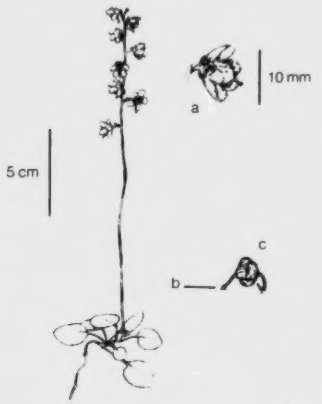
FLOWERS — 10-25 in a long loose cluster; petals pinkish to purplish-red, ***style long, bent to one side*** (a).

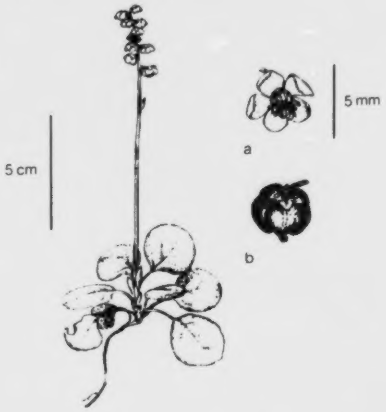
FRUIT — capsule (b) 6-8 mm broad.

HABITAT — moist or mesic places, chiefly in coniferous forest; birch-aspen stands in the Kitwanga-Hazelton area. Widespread, but not on the outer coast.

Other Herbaceous Plants

Pyrolaceae (Wintergreen family)





Pyrola chlorantha

(Green wintergreen)

HERB, perennial with long slender rhizomes and leafy sterile shoots; flowering stem to 25 cm tall.

LEAVES — Circular to broad oval, leathery, pale green on top, darker beneath; ***petioles longer than blade.***

FLOWERS — (a) in a long cluster of few to 10 flowers; petal pale yellowish to greenish-white, ***style bent to one side*** (b).

FRUIT — depressed-globose capsule (c).

HABITAT — on humus in coniferous forest, moist woods, occasionally in drier area in open forest.

Pyrola minor

(Lesser wintergreen)

HERB, perennial with a slender rhizome; flowering stem single, naked to 25 cm tall.

LEAVES — broadly elliptic or orbicular, ***dark green and thin,*** rounded to heart-shaped at base with rounded teeth.

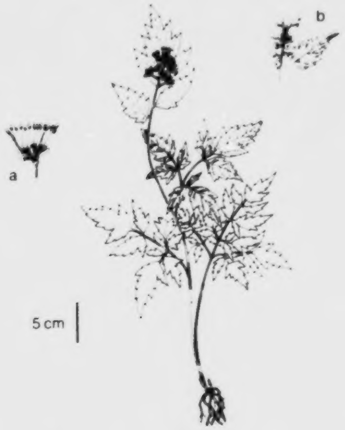
FLOWERS — (a) 5-20 flowered cluster with flowers not directed to one side; petals white or pink, ***style short and straight.***

FRUIT — depressed-globose capsule (b), 5-6 mm broad.

HABITAT — humus in coniferous forest, moist mossy woods and damp mountain meadows.

Other Herbaceous Plants

Ranunculaceae (Buttercup family)



Actaea rubra

(Red baneberry)

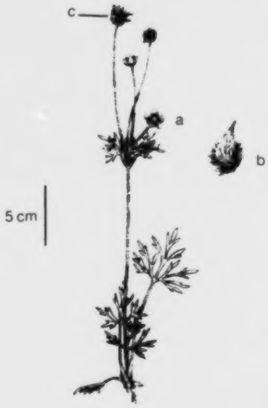
HERB, stems 1-several, 0.4-1.0 m tall, branched.

LEAVES — few, 2-3 ternate, toothed and lobed.

FLOWERS — (a) ***white, in terminal and axillary inflorescences.***

FRUIT — ***glossy red or white berries*** (b), ***poisonous.***

HABITAT — moist woods and streambanks; subhygric-hygric rich sites on the coast and in the interior.



Anemone multifida

(Cut-leaf anemone)

HERB, hairy, perennial with one to many stems from a thickened stem base commonly branched; 15-50 cm tall.

LEAVES — basal leaves numerous, in threes or fours and cleft 2 or 3 times; leaves at base of flower stems dissected similarly to basal leaves.

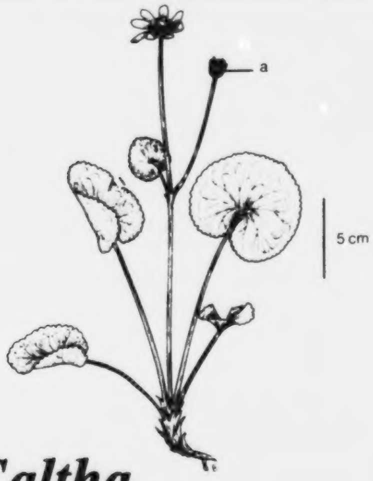
FLOWERS — (a) ***yellowish and tinged with red, blue or purple, particularly on outer surface.***

FRUIT — achenes (b) borne in somewhat ***spherical cluster*** (c), woolly-silky.

HABITAT — from dry sunny exposed slopes and forest in the foothills and mountain valleys to higher peaks; very common in prairie grasslands, dry open woods and meadows.

Other Herbaceous Plants

Ranunculaceae (Buttercup family)



Caltha leptosepala var. *biflora*

(Broad-leaf marshmarigold)

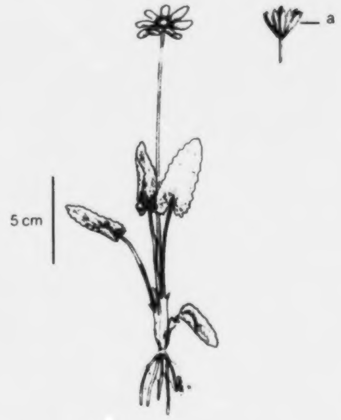
HERB, plants erect, 15-35 cm tall.

LEAVES — mainly basal, ***petiole several times length of blade, blade almost circular to egg-shaped,*** up to 10 cm long, almost entire to round-toothed.

FLOWERS — ***white solitary;*** single leaf usually at base of flower stem, ***flower stems usually 2.***

FRUIT — follicle (a) subsessile.

HABITAT — wet, alpine and subalpine places, moist woods and meadows, common in bogs.



Caltha leptosepala var. *leptosepala*

(Elkslip marshmarigold)

HERB, fleshy perennial, 5-40 cm tall.

LEAVES — abundant, ***oblong-oval,*** to 6 cm long, nearly entire to serrated, waxy green, ***petioles shorter than the blades.***

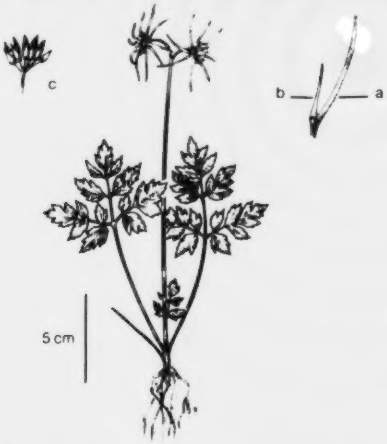
FLOWERS — showy, ***white, tinged with blue and a greenish-yellow centre.***

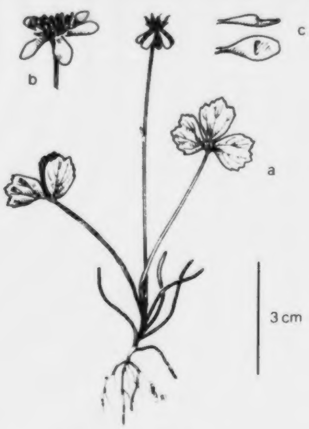
FRUIT — follicle (a) subsessile.

HABITAT — wet subalpine and alpine locations, common on organic soils.

Other Herbaceous Plants

Ranunculaceae (Buttercup family)





Coptis aspleniifolia

(Fern-leaf goldthread)

HERB, 9-35 cm tall; ***thick rootstock.***

LEAVES — ***basal, fernlike,*** ternately compound, leaflets pinnate, lowest pair of pinnules petiolate, ultimate segments sharply serrate and deeply lobed or deeply and sharply cut.

FLOWERS — leafless stalk of ***inflorescence mostly 2-3 flowered,*** 5-25 cm tall, usually exceeding leaves when plant in flower; ***sepals*** (a) ***whitish, threadlike-lance-shaped; petals*** (b) ***slightly shorter than sepals, threadlike.***

FRUIT — a follicle (c).

HABITAT — moist woods and bogs, most common in the wet forests and muskegs of the outer coast.

Coptis trifolia

(Trifoliate goldthread)

HERB, low perennial, 5-14 cm tall, from a slender, elongate, bright yellow rhizome.

LEAVES — ***basal, evergreen, with 3 leaflets*** (a), largest portion of leaflet above the middle, sharply round-toothed and very obscurely 3-lobed.

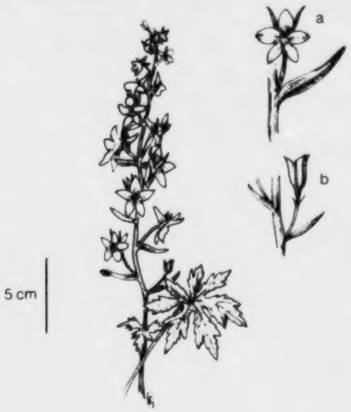
FLOWERS — (b) solitary; sepals whitish, narrowly lance-to spatula-shaped; petals (c) half the length of the sepals, fleshy hollowed and nectariferous at tip and without flattened blade.

FRUIT — a follicle.

HABITAT — damp mossy woods, thickets; most common in the wet forests and muskegs of the outer coast.

Other Herbaceous Plants

Ranunculaceae (Buttercup family)



Delphinium glaucum

(Pale larkspur)

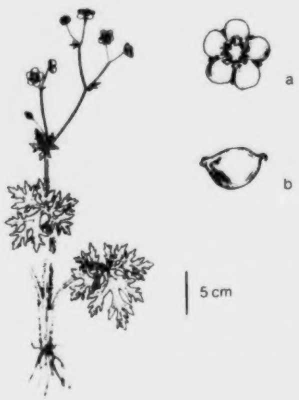
HERB, perennial, from thick, stout rootstock; stems usually several, simple below inflorescence 1-2 m tall.

LEAVES — numerous, reduced up the stem, 5-7 large lobes with each lobe 2-3 times sharply lobed or toothed, ***glaucous.***

FLOWERS — (a) in simple to compound, elongate and loosely, ***many flowered inflorescences; sepals deep purplish, petals bluish.***

FRUIT — an erect glabrous follicle (b).

HABITAT — subalpine to alpine meadows and streambanks.



Ranunculus acris ssp. *acris*

(Meadow buttercup)

HERB, hairy perennial; stems 1 to several, hollow, 30-80 cm tall.

LEAVES — ***basal leaf blades broadly heart-shaped,*** deeply 3-lobed, lateral segments again divided nearly to base, and again cut 2-3 times into sharp-pointed segments, central main lobe ternately segmented and cut as lateral pair; stem leaves alternate, transitional to 3-5 lobed bracts.

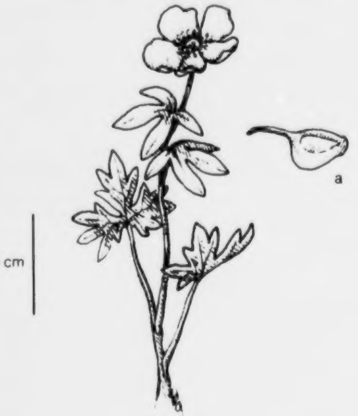
FLOWERS — (a) ***sepals greenish,*** hairy, quickly deciduous; ***petals 5, yellow.***

FRUIT — glabrous smooth achene (b) with stylar beak broad, flattened and curved.

HABITAT — moist to well-drained soil at lower elevations; moist meadows, roadsides.

Other Herbaceous Plants

Ranunculaceae (Buttercup family)



Ranunculus eschscholtzii

(Subalpine buttercup)

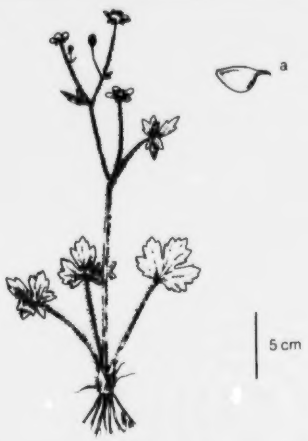
HERB, perennial with fibrous roots, stems 1-several, 5-25 cm tall.

LEAVES — basal ones slender petiolate, kidney-shaped to oval in outline, from shallowly 3-lobed to 2-3 times dissected; stem leaves sessile.

FLOWERS — ***1-3 yellow, terminal;*** petals 5, 7-15 mm long.

FRUIT — achene (a) smooth, glabrous to lightly hairy, with recurved stylar beak.

HABITAT — mountain meadows and talus slopes, ***often blossoming at edges of melting snowbanks.***



Ranunculus occidentalis ssp. *occidentalis*

(Western buttercup)

HERB, hairy perennial; stems 1 to several, hollow, 15-40 cm tall.

LEAVES — ***basal leaf blades simple,*** divided into 3 main, wedge-shaped segments, middle lobe ternately deeply toothed; stem leaves alternate, more deeply dissected than basal leaves, transitional to 3-7-segmented (lower) and entire (upper) bracts.

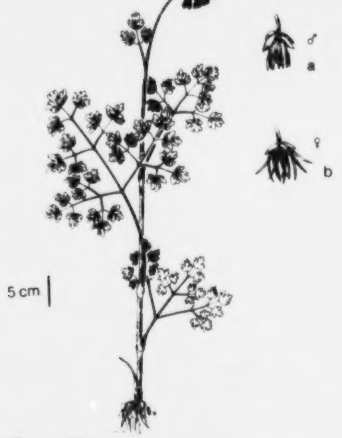
FLOWERS — ***sepals 5, greenish or pinkish-tinged,*** hairy, quickly deciduous; ***petals 5, yellow.***

FRUIT — achene (a) smooth, glabrous, tapered to a straight stylar beak.

HABITAT — moist to well-drained soil; moist meadows.

Other Herbaceous Plants

Ranunculaceae (Buttercup family)



Thalictrum occidentale

(Western meadowrue)

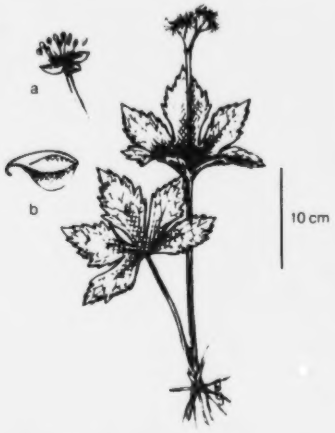
HERB, delicate, perennial, stems 0.4-1.0 m tall, ***young stems dark purplish.***

LEAVES — 3-4 times ternate; leaflets 3-lobed, each lobe less deeply 2-3 lobed or toothed, glabrous.

FLOWERS — greenish-white (female) to purplish (male); male (a) and female (b) flowers on separate plants.

FRUIT — achene with 3 prominent nerves on each side.

HABITAT — moist lowland woods to subalpine slopes.



Trautvetteria caroliniensis

(False bugbane)

HERB, stems 1 to several from widely spreading rhizomes, erect, 50-80 cm tall, ***smooth below becoming crisply hairy above,*** at least in the inflorescence.

LEAVES — mainly basal, long-petioled, blades deeply palmately lobed into 5-11 broadly wedge-shaped, variously lobed, toothed segments, smooth above, hairy and paler beneath; stem leaves 1-2, alternate, short petiolate.

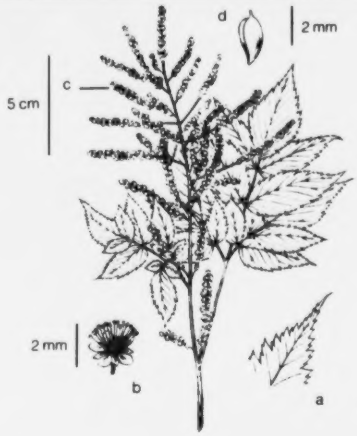
FLOWERS — (a) ***sepals egg-shaped, concave.***

FRUIT — achene (b) papery, strongly nerved on the far angles, beaked with hooked style.

HABITAT — moist woods and along streams. Found in rich hygric sites in coastal areas only.

Other Herbaceous Plants

Rosaceae (Rose family)



Aruncus dioicus

(Goatsbeard)

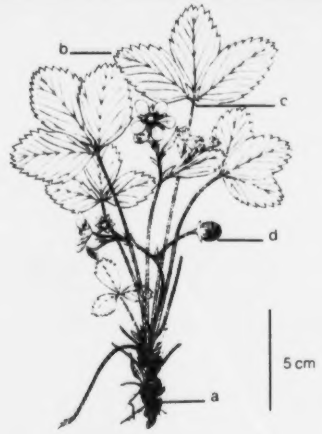
HERB, deciduous perennial with stout short-creeping rhizomes and several stems 1-2 m tall.

LEAVES — alternate, mostly 3 times compound, sharply serrated (a), ***more or less hairy on both sides.***

FLOWERS — (b) ***white,*** in dense, terminal, compound cluster (c).

FRUIT — follicle (d) 3 mm long.

HABITAT — in damp woods and along streams. Most common in coastal areas, found sporadically in the ICHg, but absent from SBS. Rich moist sites, usually open, along roads, streambanks etc.



Fragaria virginiana

(Blueleaf strawberry)

HERB, perennial with rootstock (a) ***usually a single crown*** , with several trailing shoots; flowering stem up to 15 cm long.

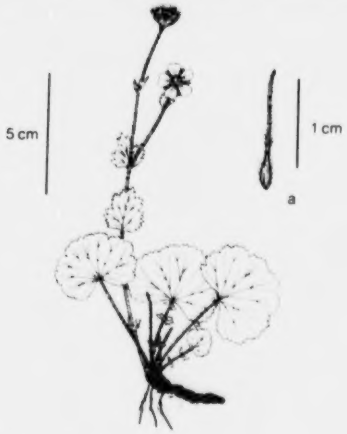
LEAVES - glaucous bluish-green above, 3 compound, naked to silky hairy beneath, ***edge serrated with terminal tooth less than ½ as wide and shorter than the adjacent teeth*** (b), leaflets with short petiole (c).

FLOWERS — white, 2-15 in open cymes.

FRUIT — small strawberry (d), fruit stem shorter than leaves; juicy, delicious, and much richer in flavour than domestic species.

HABITAT — open places throughout the province, most common in interior.

Rosaceae (Rose family)



Geum calthifolium ssp. *calthifolium*

(Caltha-leaved avens)

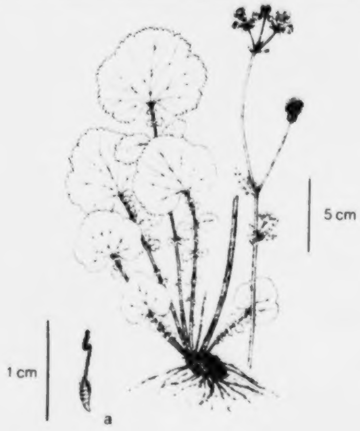
HERB, plants 10-30 cm tall; stems erect, hairy, from stout, dark-brown thickened stem base, 1-3 sessile leaves below inflorescence.

LEAVES — basal leaves long-petiolate, simple or with ***1 to few tiny leaflets below greatly enlarged terminal leaflet,*** terminal leaflet kidney-shaped to circular, heart-shaped base, rounded at tip, sharply toothed, nearly without hairs above, hairy along veins below; stem leaves coarsely serrate, lobed and sessile.

FLOWERS - petals yellow.

FRUIT — achenes (a) covered with stiff hairs.

HABITAT — moist sites in meadows, often in alpine regions.



Geum macrophyllum var. *macrophyllum*

(Large-leaved avens)

HERB, perennial, rhizomatous with stems to 1 m tall and bristly hairy below.

LEAVES — those from rootstock are long petioled, with terminal segments largest, ***heart-to-kidney-shaped, and several smaller leaflets occurring below;*** stem leaves sessile or nearly so, deeply 3-lobed or 3-foliate.

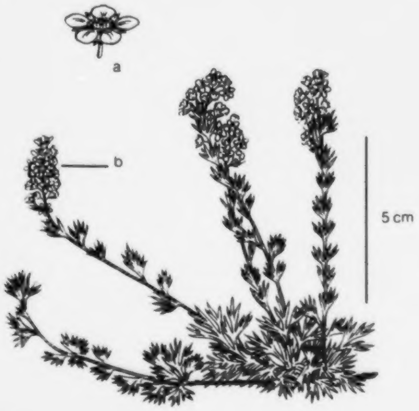
FLOWERS — bright yellow, from leaf axils or in terminal inflorescence.

FRUIT — achenes (a) short-hairy.

HABITAT — moist woods and openings, roadsides.

Other Herbaceous Plants

Rosaceae (Rose family)



Luetkea pectinata

(Partridgefoot)

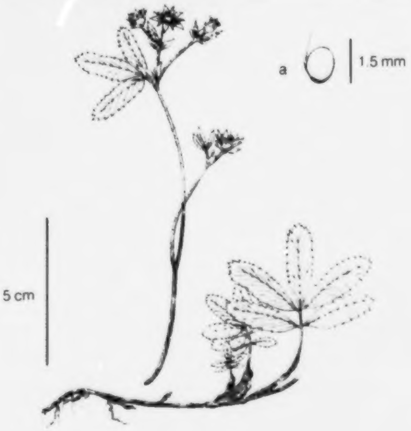
HERB, prostrate, evergreen mat-forming semi-shrub; flowering stem up to 15 cm tall.

LEAVES — numerous, mostly crowded in ***thick basal tufts,*** without stipules, two to three times 3-dissected, ***withering and persistent for many years.***

FLOWERS — (a) white in a terminal cluster (b), on an upright leafy flowering stem.

FRUIT — several seeded follicle.

HABITAT — moist or shaded locations in subalpine and alpine. Indicator of late snow melt patches.



Potentilla palustris

(Marsh cinquefoil)

HERB, perennial with ***long-creeping often floating, more or less woody rhizomes; stems frequently reddish below,*** to 1 m tall.

LEAVES — lower ones pinnate, ***5-7 leaflets,*** coarsely serrated, pale green above, glaucous on the underside, upper leaves smaller.

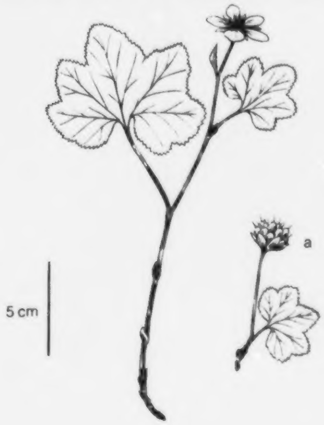
FLOWERS — ***several to many*** in loose terminal cluster, ***purplish, and brownish.***

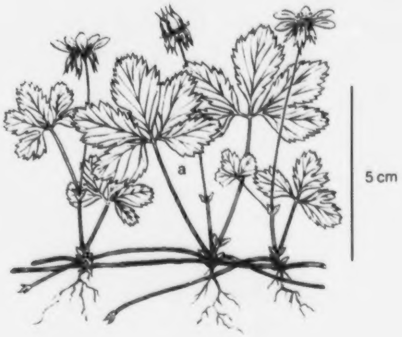
FRUIT — a plumply ovate achene (a).

HABITAT — in marshes and bogs, usually at least partly submerged. Common throughout the province.

Other Herbaceous Plants

Rosaceae (Rose family)





Rubus chamaemorus

(Cloudberry)

HERB, perennial with extensively creeping rootstock; flowering stem ***erect, unarmed,*** to 30 cm tall.

LEAVES — 1-3 per stem, ***more or less 5 lobed,*** leathery, serrated.

FLOWERS — ***solitary, terminal,*** uni-sexual; ***petals white and spreading.***

FRUIT — drupelets (a), at first reddish ***then amber to yellow when mature;*** edible with sour-bitter taste.

HABITAT — occurring mainly in the northern interior; in muskegs and peat bogs, in association with *Sphagnum* moss. Found in the ICHg and SBS.

Rubus pedatus

(Strawberry bramble)

HERB, perennial with creeping stem, rooting at the nodes, produces short, erect stems bearing 1-3 leaves; flowering stems erect, unarmed and short (2 cm or less).

LEAVES — usually palmately ***5-foliate*** (a) and coarsely serrated.

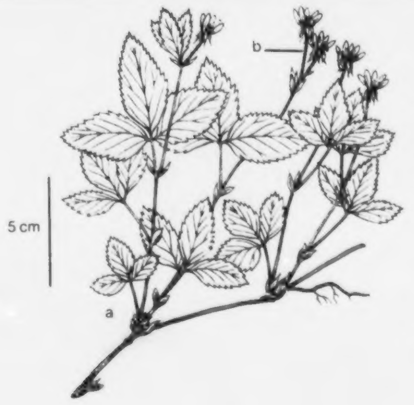
FLOWERS — ***solitary on very slender pedicels; petals white, spreading or reflexed.***

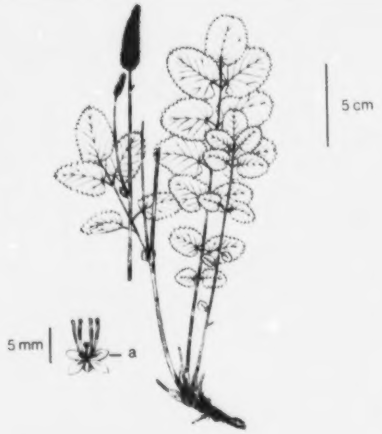
FRUIT — red druplets, more or less coherent; very small and not particularly flavourful.

HABITAT — common in both coast and interior medium rich mesic to subhygric sites, most abundant in montane forests.

Other Herbaceous Plants

Rosaceae (Rose family)





Rubus pubescens

(Dwarf red blackberry)

HERB, perennial with slender trailing stems, often rooting at nodes, ***with soft long hairs;*** flowering stem erect, unarmed, to 50 cm tall.

LEAVES — ***3-foliate*** (a), acute, sharply toothed and often entire on basal portion.

FLOWERS — ***1-3 on short lateral branches;*** pedicels covered with stalked glands (b); ***petals white to rarely rose, erect.***

FRUIT — aggregate of dark red druplets, edible.

HABITAT — in forest, typically an interior species. Common in the SBS and on moister, richer and seral sites in the ICHg.

Sanguisorba canadensis* ssp. *latifolia

(Sitka burnet)

HERB, glabrous perennial, freely rhizomatous; flowering stems .25-1.0 m tall.

LEAVES — ***mostly basal;*** basal leaves with ***attached membranous stipules;*** blades 10-30 cm long; 9-17 leaflets, egg-shaped to egg-shaped-oblong, coarsely serrate; ***leaves of flowering stems 1-3, reduced, with leaflet-like stipules.***

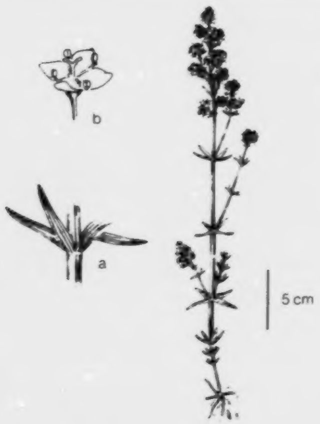
FLOWERS — inflorescence elongate, ***sepals*** (a) ***greenish-white or yellowish-white to slightly pinkish - or purplish-tinged.***

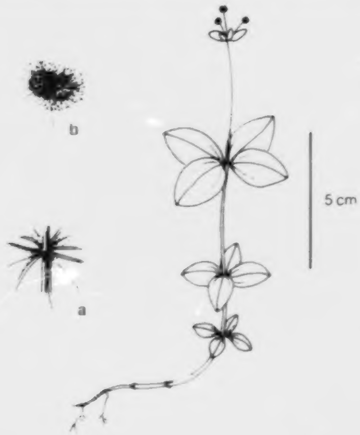
FRUIT — an achene.

HABITAT — bogs, swamps, streambanks, meadows, in the Kitwanga Hazelton area it occurs in the subalpine-alpine.

Other Herbaceous Plants

Rubiaceae (Madder family)





Galium boreale

(Northern bedstraw)

HERB, perennial mostly 20-80 cm tall with numerous erect, ***square stems*** from creeping rhizomes.

LEAVES — (a) ***in whorls of 4,*** narrowly lance-shaped, blunt-tipped, ***strongly 3-nerved***

FLOWERS — (b) numerous in terminal cluster, ***white to slightly creamy.***

FRUIT — (c) covered with ***straight curly (not hooked) hairs.***

HABITAT — on mesic and drier sites; from sea level to timberline.

Galium kamtschaticum

(Northern wild licorice)

HERB, perennial from slender creeping rhizomes, stems arising singly, erect, 10-20 cm tall.

LEAVES — ***in 2 to 4 whorls of 4, stiffly ciliate on margins,*** scattered, stiff hairs on at least upper surface, thin, broadly egg-shaped to broadly egg-shaped-elliptic, with sharp point at rounded or blunt tip, base triangular-shaped (a).

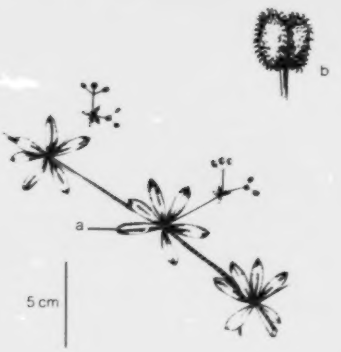
FLOWERS — ***greenish-white,*** stems 1-3 from uppermost whorl of leaves, elongate and 2-3 flowered, inflorescence very open.

FRUIT — (b) covered with hooked bristles.

HABITAT — occurs in richer sites such as the alluvial soils of Exchampsiks Park. Uncommon, found most frequently on the coast.

Other Herbaceous Plants

Rubiaceae (Madder family) *Santalaceae* (Sandalwood family)



Galium triflorum

(Fragrant bedstraw)

HERB, perennial stems 20-80 cm long, prostrate or sometimes ascending and scrambling on other vegetation.

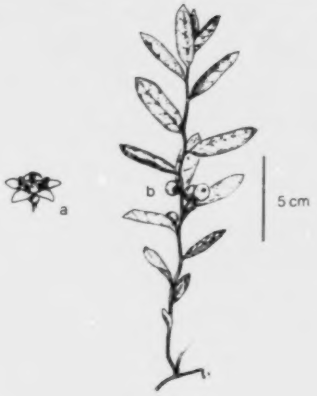
LEAVES — ***vanilla scented, mostly (5) 6 in a whorl,*** 4 on small branches, narrowly elliptic, 1-nerved (a), ***with hooked hairs on underside midrib.***

FLOWERS — ***white,*** peduncles axillary, elongated and 3-flowered.

FRUIT — (b) ***covered with hooked bristles.***

HABITAT — moist woods; from near sea level to moderate elevations. On moderately rich sites, widespread in both the coast and interior.

NOTE — *G. aparine* (Cleavers) and *G. trifidum* (Small bedstraw) are also present in the Skeena area. The leaves of *G. aparine* are usually in whorls of 6-8 and the fruit is covered with hooked bristles, whereas the leaves of *G. trifidum* are usually in whorls of 4 and the fruit is glabrous.



Geocaulon lividum

(Northern comandra)

HERB, single stemmed with creeping thread-like, reddish rootstalk, 10-25 cm.

LEAVES — thin, oval, blunt-tipped, ***bright green or yellow-variegated,*** alternate.

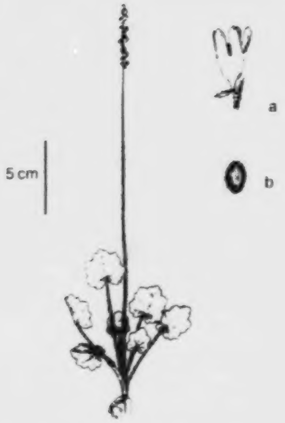
FLOWERS — (a) in slender stalked, 2-4 flowered axillary cluster; usually only centre flower fertile.

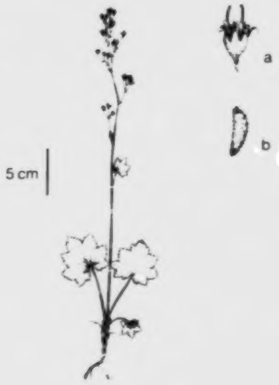
FRUIT — succulent, ***scarlet to fluorescent orange drupe*** (b); edibility is questionable, not recommended.

HABITAT — bogs and dry open woods to lower alpine slopes. Appearing in the lodgepole pine-soapberry ecosystems.

Other Herbaceous Plants

Saxifragaceae (Saxifrage family)





Heuchera chlorantha

(Meadow alumroot)

HERB, perennial with branched crown and short thick rootstocks; flowering stems 0.4-1.0 m tall, ***lower part hairy becoming glandular-hairy above.***

LEAVES — heart-shaped-egg-shaped to nearly kidney-shaped, with 5-9 broadly rounded shallow lobes, ***doubly round-toothed,*** with spreading sharp pointed teeth.

FLOWERS — ***inflorescence contracted and dense;*** top-shaped to bell-shaped (a), greenish to cream.

FRUIT — elliptic egg-shaped seed (b) covered with tapered spines.

HABITAT — gravelly prairies to wooded hillsides; dry lodgepole pine sites in the Kitwanga-Hazelton area.

Heuchera glabra

(Smooth alumroot)

HERB, flowering stems 1 to several 25-60 cm tall.

LEAVES — basal, heart-shaped to egg-shaped, sparsely glandular-hairy below, without hairs above, 5-lobed, each lobe shallowly lobed and ***coarsely round-toothed;*** stem leaves 1 or 2, greatly reduced.

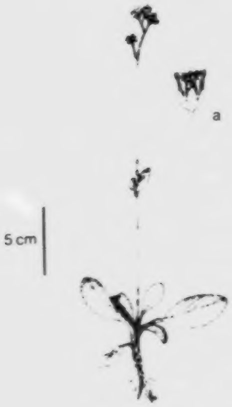
FLOWERS — (a) white; ***inflorescence glandular-hairy,*** open, linear-bracteate, many flowered, branches of inflorescence and flower stems thread-like.

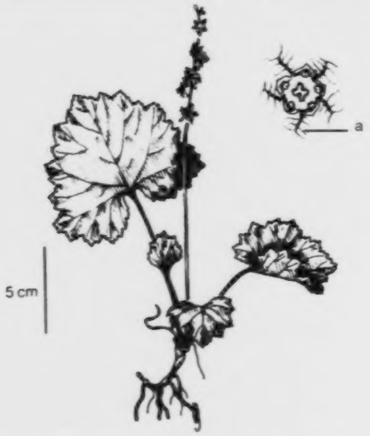
FRUIT — elliptic crescent-shaped seed (b) covered with curved conical spines.

HABITAT — streambanks, crevices of moist rocks, woodlands; from the coast to above timberline.

Other Herbaceous Plants

Saxifragaceae (Saxifrage family)





Leptarrhena pyrolifolia

(False saxifrage)

HERB, perennial with robust widespreading horizontal rootstock.

LEAVES — ***mostly basal, leathery, oval-oblong***, margin round-toothed, ***bright green above, pale green beneath;*** 1-3 smaller leaves on flowering stem.

FLOWERS — (a) ***white, in a tight cluster*** at the tip of a 20-40 cm long stem; ***in fall flowering stem and seeds are purplish-red.***

HABITAT — streambanks and wet ground, in subalpine and alpine meadows.

Mitella breweri

(Brewer's mitrewort)

HERB, perennial with leafless flowering stem, 10-40 cm tall.

LEAVES — ***with none to few brownish hairs***, heart-to-kidney-shaped, very shallowly and indistinctly 7-11 lobed, lightly rounded-toothed.

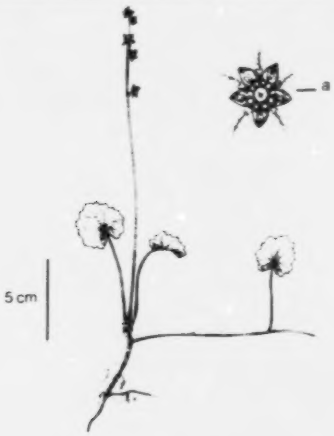
FLOWERS — ***in racemes of 20 to 60 flowers;*** greenish-yellow, saucer-shaped; ***petals pinnately dissected into hair-like structures*** (a); stamens 5, ***alternate with petals.***

FRUIT — a capsule.

HABITAT — moist mountain valleys, and open to wooded slopes, to timberline.

Other Herbaceous Plants

Saxifragaceae (Saxifrage family)



Mitella nuda

(Stoloniferous mitrewort)

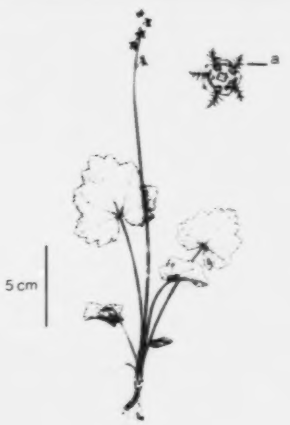
HERB, rhizomatous, usually stoloniferous; erect flowering stems 3-20 cm tall.

LEAVES — blades heart-shaped to kidney-shaped, 1-3 cm long, doubly round-toothed, ***sparsely hairy on upper surface.***

FLOWERS — inflorescence ***3-12 flowered;*** calyx broadly bell-shaped-saucer-shaped, lobed ½ length; ***petals*** (a) ***greenish-yellow, dissected into 8 threadlike lateral divisions; 10 stamens, distinguishes this species from all other** Mitella* spp.

FRUIT — a capsule.

HABITAT — damp woods, along streambanks in bogs.



Mitella pentandra

(Alpine mitrewort)

HERB, perennial, occasionally with creeping shoots, 20-30 cm tall.

LEAVES — ***hairy and glandular,*** oval-heart-shaped shallowly and indistinctly 5-9 lobed and round-toothed.

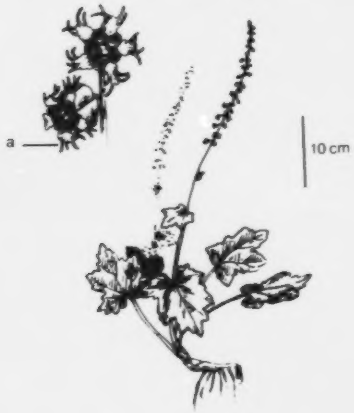
FLOWERS — ***in an elongated cluster of 6-25 flowers,*** saucer-shaped; ***petals greenish, dissected into 4-10 thread-like segments*** (a); stamens 5, ***opposite petals.***

FRUIT — a capsule.

HABITAT — moist woods especially along streams and in wet meadows, subalpine in the Kitwanga-Hazelton area.

Other Herbaceous Plants

Saxifragaceae (Saxifrage family)



Tellima grandiflora

(Tall fringecup)

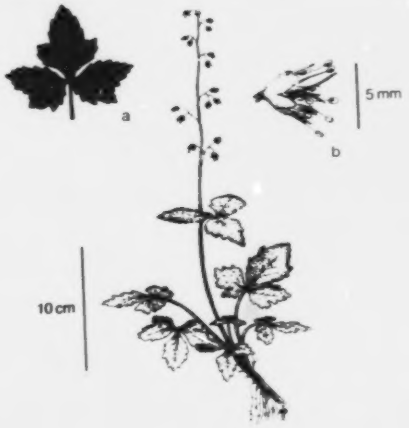
HERB, perennial with flowering stem glandular-hairy and up to 80 cm tall.

LEAVES — ***basal ones conspicuously hairy,*** oval heart-shaped, shallowly 5-7 lobed with rounded teeth; stem leaves 1-3 and reduced.

FLOWERS — in ***10-35 flowered*** elongated cluster; calyx greenish; ***petals greenish-white to deep reddish,*** often colouring with age, ***forming fringe*** (a) ***around calyx.***

FRUIT — a capsule.

HABITAT — common along streams, in woods and generally on rich soils; from sea level to subalpine, along moist roadsides in the Kitwanga-Hazelton area in the lower subalpine.



Tiarella trifoliata

(Trefoil foamflower)

HERB, perennial with slender rootstock, horizontal to ascending.

LEAVES — ***3-foliate*** (a), leaflets lobed not more than half their length, serrated.

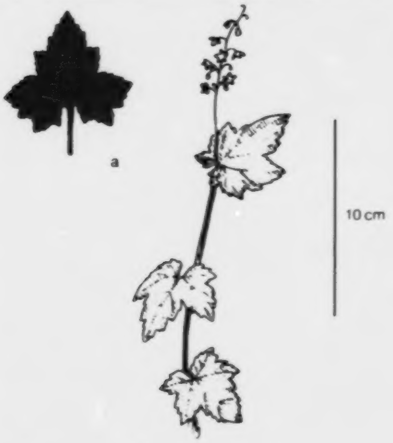
FLOWERS — (b) white in elongated cluster, flower stem with a single leaf.

FRUIT — a capsule.

HABITAT — moist woods, especially along streambanks. Widespread, moist shaded sites, medium to rich (especially subhygric sites). In Devil's club - oak fern and Devil's club - lady fern ecosystem associations in both coastal and interior zones.

Other Herbaceous Plants

Saxifragaceae (Saxifrage family) *Scheuchzeriaceae* (Scheuchzeria family)



Tiarella unifoliata

(Coolwort foamflower)

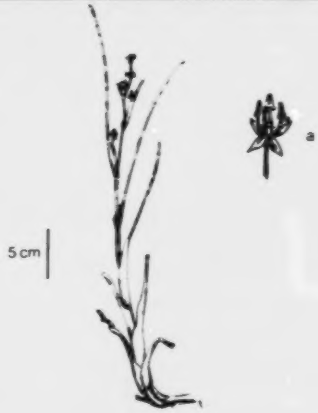
HERB, very similar to *T. trifoliata*.

LEAVES — ***simple*** and ***palmately 5-lobed*** (a).

FLOWERS — same as *T. trifoliata*.

FRUIT — a capsule.

HABITAT — same as *T. trifoliata;* often these two species can be found growing side by side.



Scheuchzeria palustris ssp. *americana*

(Scheuchzeria)

HERB, semi-aquatic, yellowish-green, low, bog perennial, with yellow-grey creeping rootstock; flowering stems 20-40 cm tall, covered at base with withering and persistant leaves.

LEAVES — ***alternate,*** with membranous sheaths at base; blades erect, ***tubular, with round pore at tip;*** basal leaves 20-40 cm long; stem leaves gradually reduced upward, elongate ligule present.

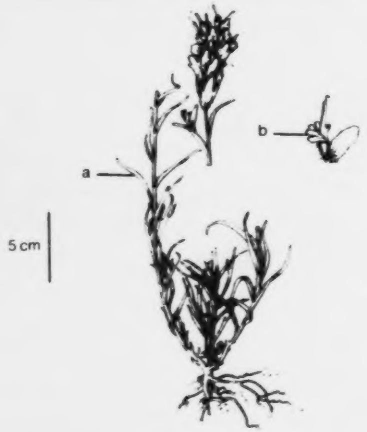
FLOWERS — (a) inflorescence ***3-12 flowered; perianth greenish-white.***

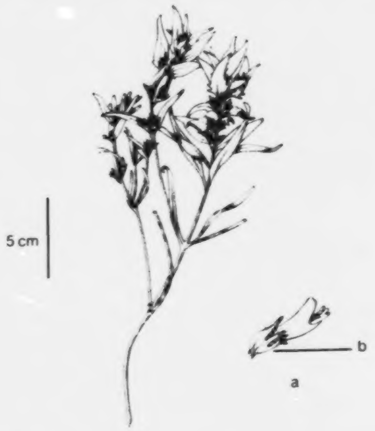
FRUIT — follicle with short, divergent beak, 1-2 seeded.

HABITAT — with *Sphagnum* in bogs, with sedges on lake margins, widespread both coastal and interior.

Other Herbaceous Plants

Scrophulariaceae (Figwort family)





Castilleja miniata

(Scarlet paintbrush)

HERB, perennial with few, erect or ascending stems from a woody base, to 80 cm tall.

LEAVES — linear to lance-shaped usually entire (a), without or with fine hairs.

FLOWERS — greenish, mostly concealed by bracts; inflorescence conspicuous, composed of bright red to scarlet toothed and hairy bracts (b).

HABITAT — open areas, mostly at relatively low elevations, common in B.C.

Melampyrum lineare var. *lineare*

(Narrow-leaved cow-wheat)

HERB, slender annual with stems simple or few-branched, 10-30 cm tall.

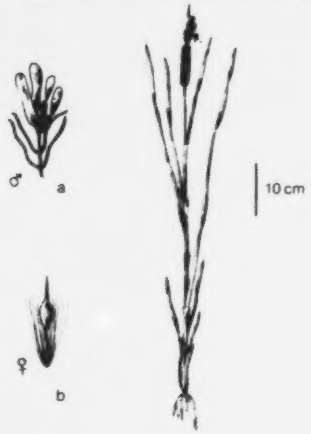
LEAVES — opposite, short petiolate, linear or lance-shaped.

FLOWERS — (a) white or pinkish with yellow palate, with ***bracts*** (b) ***scarcely differentiated from the proper leaves.***

HABITAT — dry woods, especially pine stands.

Other Herbaceous Plants

Typhaceae (Cattail family)



Typha latifolia

(Cattail)

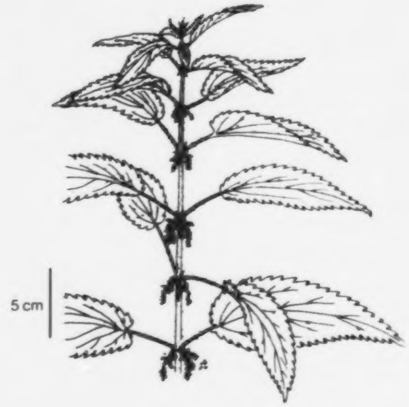
HERB, semi-aquatic, coarse perennial with stems 1-3 m tall.

LEAVES — linear blades 0.8-2 cm broad, greyish-green.

FLOWERS — male (a) and female (b) flowers separate in a ***brown club-like inflorescence*** on the end of a flowering stalk.

HABITAT — in shallow, standing or slow moving water, marshes and swamps.

Urticaceae (Nettle family)



Urtica dioica ssp. *gracilis*

(Stinging nettle)

HERB, strongly rhizomatous perennial, 1-3 m tall. ***Produces an irritating rash on contact with skin.***

LEAVES — narrow lance-shaped to oval or heart-shaped, ***opposite*** coarsely serrated; can be cooked and eaten as greens when young.

FLOWERS — greenish, ***inconspicuous,*** without petals, in axillary inflorescence.

HABITAT — moist, shaded lowlands to montane slopes; in deep rich soil or near moisture.

Other Herbaceous Plants

Violaceae (Violet family)

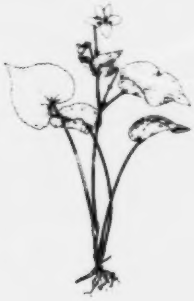
KEY TO THE COMMON VIOLETS (*VIOLA* spp.)

Adapted from Hitchcock 1973

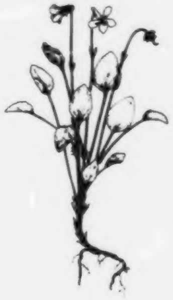
- 1a. Petals predominantly white, often with bluish or purplish shading, but not yellow.
  - 2a. Plants producing annual, flower-bearing elongate to short and tufted leafy stems. Petals usually shaded with some yellow at least basally .... *Viola canadensis*
  - 2b. Plants not producing annual flower-bearing stems, the flowers peduncullate on the main rhizome.
    - 3a. Petals generally tinged with some violet or blue on the back, stolons well-developed, leaves 2.5 cm wide .... *V. palustris*
    - 3b. Petals seldom other than pure white (aside from purplish pencilling).
      - 4a. Stolons lacking, leaves usually 3 cm wide, kidney-shaped, often with long soft spreading hairs on the lower surface .... *V. renifolia*
      - 4b. Stolons present; leaves usually 3 cm wide, heart-shaped, glabrous .... *V. macloskeyi*
- 1b. Petals predominantly blue, violet or yellowish rather than white.
  - 5a. Corolla blue to purple definitely not yellow
    - 6a. Stolons present, very slender and elongate, the leaves arising from the rhizomes, erect leafy stems lacking .... *V. palustris*
    - 6b. Stolons absent or if present the plant has erect leafy stems
      - 7a. Aerial stems well developed. Leaves kidney-shaped, many 4 cm broad; plant mainly 15 cm .... *V. canadensis*
      - 7b. Aerial stems lacking or at least shorter than the peduncles which are borne mainly on the rhizomes
        - 8a. Head of style not bearded.
          - 9a. Plants with conspicuous leafy stems .... *V. langsdorfii*
          - 9b. Plant with scarcely any development of erect leafy stems ... *V. nephrophylla*
        - 8b. Head of style bearded .... *V. adunca*
  - 5b. Corolla partially or wholly yellow.
    - 10a. Flowers not confined to the tip of erect branches, the stems leafy and floriferous below. Flowers lemon-yellow to gold; 3 lower petals purplish pencilled, leaves not purple-flecked .... *V. orbiculata*
    - 10b. Flowers from near the tip of erect leafy stems that are naked below.
      - 11a. Upper petals yellow on back .... *V. glabella*
      - 11b. Upper petals bluish-red on back .... *V. canadensis*

Other Herbaceous Plants

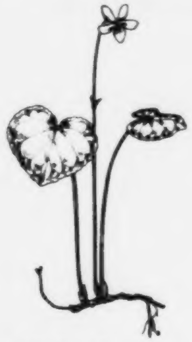
Violaceae (Violet family)



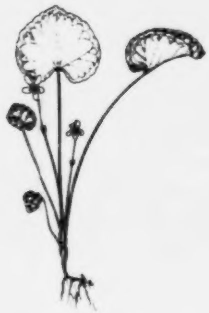
Viola canadensis



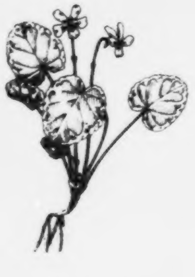
Viola adunca



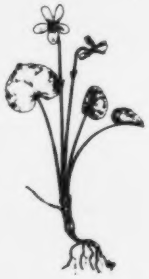
Viola palustris



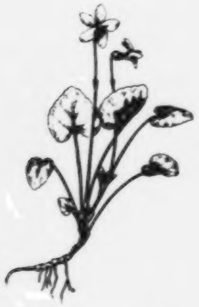
Viola renifolia



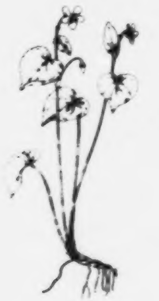
Viola orbiculata



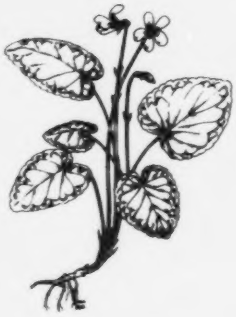
Viola macloskeyi



Viola langsdorfii



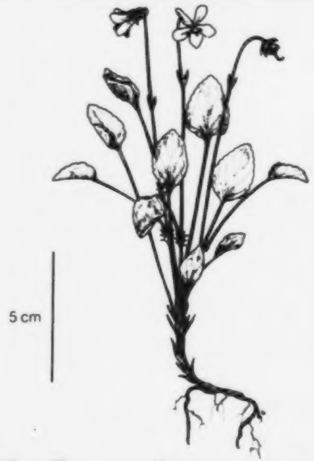
Viola glabella



Viola nephrophylla

Other Herbaceous Plants

Violaceae (Violet family)



Viola adunca ssp. *adunca*

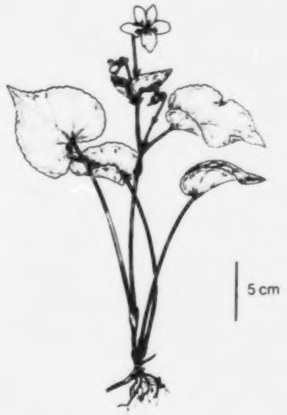
(Hook violet)

HERB, perennial with ***short to elongate, slender rhizomes***, usually stemless in early part of season later developing aerial stems.

LEAVES — oval-lance-shaped to kidney-shaped, margin finely round-toothed; stipules linear lance-shaped, entire to slender toothed.

FLOWERS — ***blue to deep violet, the lower three often whitish based.***

HABITAT — in dry to moist meadows, woods and open ground, near timberline.



Viola canadensis ssp. *rydbergii*

(Canada violet)

HERB, perennial with ***short thick rootstock and often with slender, creeping stolons; stems 10-40 cm.***

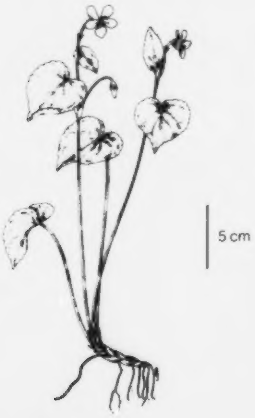
LEAVES — heart-shaped, long-stemmed, usually hairy on one or both surfaces, margin serrated.

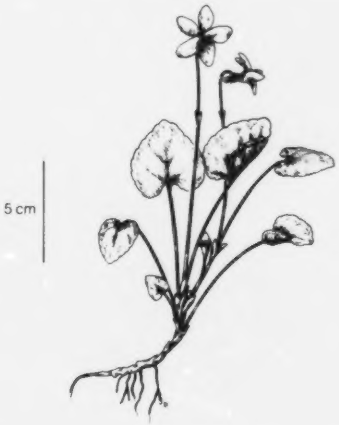
FLOWERS — occurring on upper portion of stem, ***white with yellow base, purplish-tinged on outside.***

HABITAT — in moist woodland and forest, usually in loamy soils or alluvial floodplains.

Other Herbaceous Plants

Violaceae (Violet family)





Viola glabella

(Stream violet)

HERB, perennial ***with spreading scaly, fleshy rootstock:*** flowering stem leafless except on upper most section.

LEAVES — somewhat kidney-shaped to heart-shaped, serrated, without or more commonly with hairs, basal leaves with long stems.

FLOWERS — occurring mostly on upper portion of stem, ***yellow with 3 lower petals purplish-pencilled.***

HABITAT — fairly moist woods or along streams; found in moist, rich forested sites in CWHf (Devil's club-lady fern sites), ICHg and ESSF.

Viola langsdorfii

(Aleutian violet)

HERB, perennial with ***widespread, thick rootstocks;*** plants with rather conspicuous, erect, leafy stem, 2-10 cm tall.

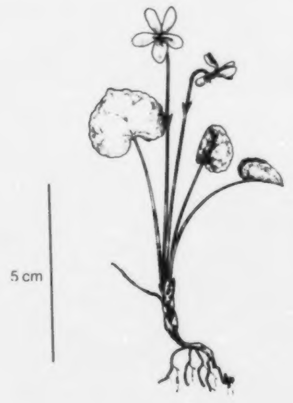
LEAVES — stipules egg-shaped to lance-shaped; leaf blades kidney-shaped to egg-shaped-heart-shaped, round-toothed, 2-5 cm broad.

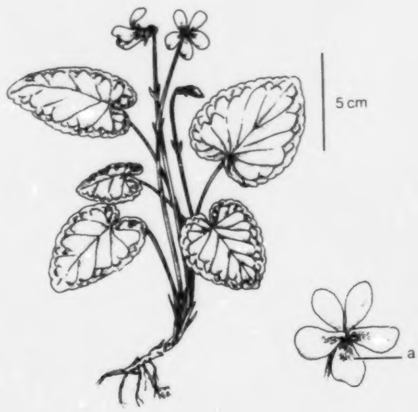
FLOWERS — 15-20 mm long, spur conspicuous, saclike; ***petals violet,*** lower three whitish-based, lateral pair white bearded.

HABITAT — moist places, bogs, alpine tundra.

Other Herbaceous Plants

Violaceae (Violet family)





Viola macloskeyi

(Small white violet)

HERB, perennial with slender rootstocks and ***thread-like stolons***, 3-6 cm tall, without erect, aerial flowering stems.

LEAVES — stipules lance-shaped, membranous, glandular-toothed; petioles 2-4 cm long; leaf blades egg-shaped-heart-shaped, 1-3 cm long, round-toothed.

FLOWERS — 5-10 mm long, on stems exceeding leaves; spur fairly prominent; ***petals white, lower three purple-pencilled, lateral pair bearded.***

HABITAT — boggy or wet ground in mountains.

Viola nephrophylla

(Northern bog violet)

HERB, perennial with ***widespread, shallow, fleshy rhizomes;*** leaves clustered in basal rosette as leafy part of stem very short.

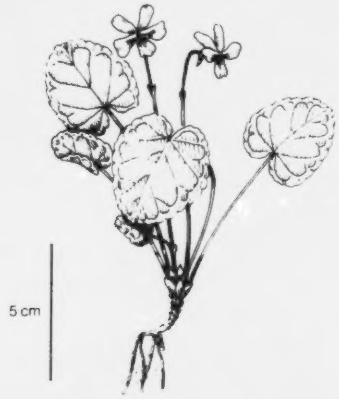
LEAVES — stipules linear-lance-shaped, entire; leaf blades deeply egg-shaped-heart-shaped to heart-shaped-triangular, round-toothed, glabrous.

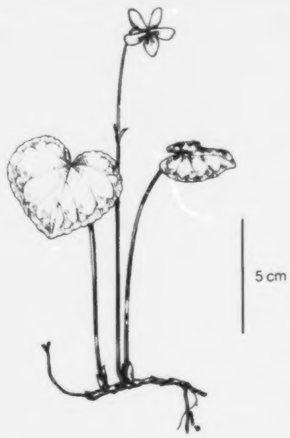
FLOWERS — 10-20 mm long, on stems equalling or exceeding leaves; spur short, saclike; ***petals bluish-violet,*** lower three whitish at base, prominently bearded (a).

HABITAT — moist places, especially in meadows and along streams and open woods.

Other Herbaceous Plants

Violaceae (Violet family)





Viola orbiculata

(Round-leaved violet)

HERB, perennial with flowering stem not over 5 cm tall.

LEAVES — oval to nearly circular, thin, serrated, ***often persistent over winter.***

FLOWERS — ***lemon-yellow to gold,*** with ***3 lower petals purplish-pencilled.***

HABITAT — on alpine and montane slopes and in coniferous forests.

Viola palustris

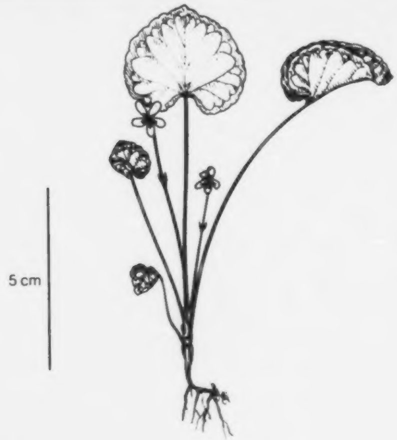
(Marsh violet)

HERB, perennial from slender widespread rhizomes and creeping stolons, without erect flowering stems, ***flowers and leaves arising from rhizomes.***

LEAVES — ***stipules chaffy, lance-shaped, entire;*** leaf blades heart-shaped to kidney-shaped, round-toothed.

FLOWERS — 10-13 mm long, sepals with small lobe at base; spur conspicuous saclike; ***petals white, generally tinged with violet or blue on back, lateral pair sparsely bearded.***

HABITAT — moist meadows, along streams.



Viola renifolia

(Kidney-leaved violet)

HERB, perennial from short ascending rootstocks; ***horizontal rhizomes and stolons lacking.***

LEAVES — stipules lance-shaped, toothed; leaf blades heart-shaped-circular to kidney-shaped, round-toothed, hairy; clustered in basal rosette.

FLOWERS — ***petals pure white, lower 3 purple pencilled, all beardless;*** flowers on stems shorter than the leaves.

HABITAT — lowland forest to subalpine slopes, cool woods, boggy swamps.

Non-Vascular Plants

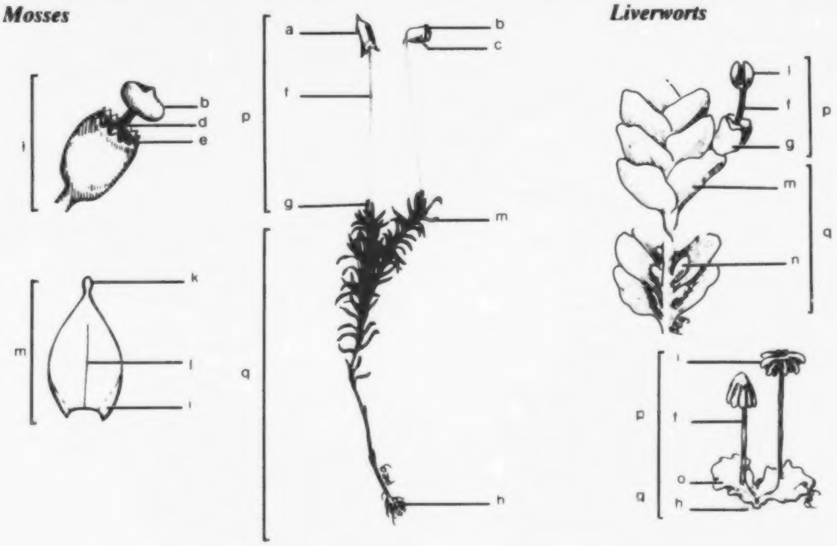
Bryophytes

(Mosses and Liverworts)

The bryophytes are made up of mosses and liverworts (hepatics). The common mosses treated are arranged alphabetically while the liverworts are arranged by growth form (thalloid to leafy). Habitats for the mosses are as follows:

1. Mosses of bogs and fens:
    - *Sphagnum* spp.
    - *Drepanocladus* spp.
    - *Tomenthypnum nitens*
    - *Aulacomnium palustre*
2. Mosses typically of the coastal forest:
    - *Plagiothecium undulatum*
    - *Rhytidiopsis robusta*
    - *Rhytidiadelphus loreus*
3. Mosses dominant of the interior forests:
    - *Rhytidiadelphus triquetrus*
    - *Pleurozium schreberi*
    - *Hylocomium splendens*
    - *Ptilium crista-castrensis*
4. Moss indicators of rich moist sites:
    - *Mnium glabrescens*
    - *M. insigne*
5. Mosses of decaying wood, disturbed or dry areas:
    - *Dicranum fuscescens*
    - *D. scoparium*
    - *Polytrichum piliferum*
    - *P. juniperinum*

Bryophytes

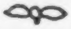


Legend

a - calyptra
b - operculum
c - apophysis
d - columella
e - peristome teeth
f - seta or stalk

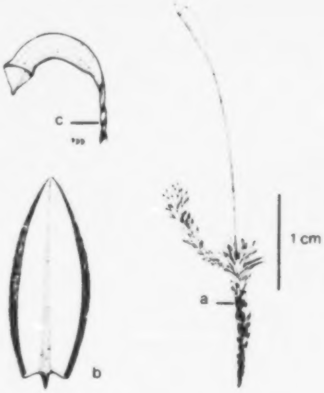
g - perichaetial leaves
h - rhizoids
i - alar region
j - costa or midrib
k - gemmae
l - capsule

m - "leaf"
n - under leaf
o - thallus
p - sporophyte
q - gametophyte

FEATURE	MOSSES	LIVERWORTS
Gametophyte:		
General appearance	sturdy, green, yellow green to brown, rarely translucent leafy, midrib often present, margins may be toothed or lobed	delicate, translucent water green to rubbery blue green leafy (85%) or thallose, no midrib, leaves may be lobed or folded
Symmetry	radial, leaves all around the stem 	bilateral, leaves essentially in two rows, occasionally with a third row of reduced underleaves 
Sporophyte:		
General appearance	a long lasting stalked capsule with a wiry seta	a short lived, stalked whitish, translucent capsule
Capsule	opens by a cap and a circular mouth lined with peristome teeth	opens along four slits in the capsules

Bryophytes

Mosses

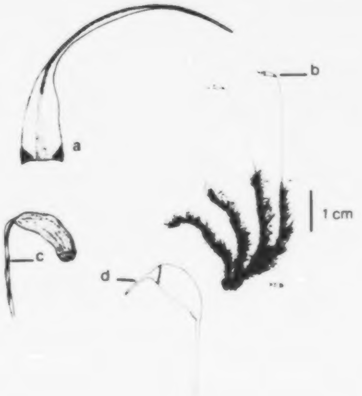


Aulacomnium palustre

GAMETOPHYTE — bright yellow-green, not glossy, forming tufts of erect plants, rarely branching; ***stems green densely matted with red rhizoids*** (a); leaves lance-shaped to oval (b), crisped when dry, costa distinct as a pale green ridge on back of leaf.

SPOROPHYTE — at apex of main shoot; seta strongly twisted when dry (c), capsule red-brown inclined to nearly erect, often curved, cylindrical, strongly grooved longitudinally; peristome yellowish to pale brown, curved inward when dry.

HABITAT — boggy, swampy and seepy areas, occasionally on humus or rotten wood; probably throughout province, very common in the northern part of the province. In bogs, fens and swamps, on wet disturbed earth and occasionally in very dry pine stands. Found both on the coast and in the interior.



Dicranum fuscescens

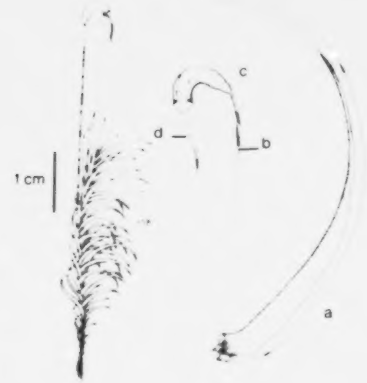
GAMETOPHYTE — dark green to light green, slightly glossy, erect unbranched stems, forming loose tufts 1-5 cm deep; stem red-brown; ***leaves lance to scythe-shaped*** (a), ***crisped and curly when dry,*** costa forming a keel on back of leaf.

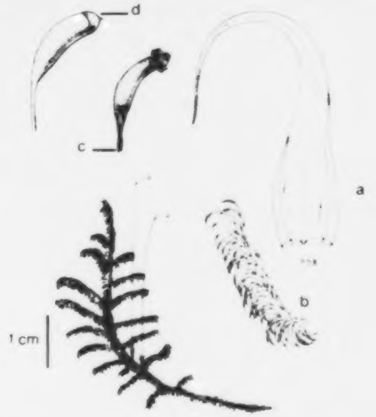
SPOROPHYTE — solitary at tip of main shoot (b); seta yellow to brown, smooth, twisted when dry (c); capsule inclined, grooved and contracted below mouth when dry and mature, cylindrical, curved, brown; ***operculum bears a distinctly narrowed snout*** (d); peristome teeth red, incurved when dry.

HABITAT — usually on wood, on logs, or as an epiphyte, sometimes on forest floor or humus of cliff ledges; occurs throughout province except in arid regions.

Bryophytes

Mosses





Dicranum scoparium

(Broom moss)

GAMETOPHYTE — light green to golden-green, strongly glossy, forming loose tufts of erect unbranched plants; stems red-brown ***leaves lance-shaped often scythe-shaped*** (a); ***not crisped when dry;*** costa forming a ridge on the back of the leaf; larger than *D. fuscescens* with longer leaves.

SPOROPHYTE — at tip of main shoots; seta yellow to brownish, smooth, twisted when dry (b); capsule inclined, cylindrical, curved, brown, rarely grooved when dry (c); ***operculum bears a distinctly narrowed snout*** (d), often red; peristome teeth red-brown, incurved when dry.

HABITAT — on rotten logs, exposed cliff ledges and sometimes on forest floor, throughout the province except in arid regions. Most frequent in the CWHf.

Drepanocladus spp.

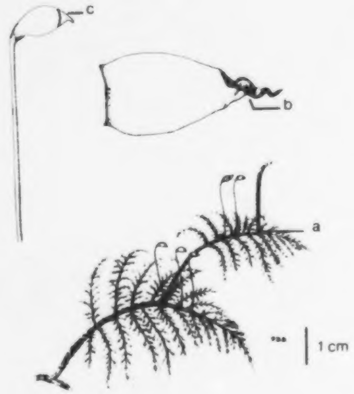
GAMETOPHYTE — in mats or tufts; green, yellow-green, to brownish, or red to purple; stems green to yellowish, erect, loosely pinnate-branched, prostrate or sometimes floating; ***leaves scythe-shaped*** (a) ***with most of the leaves curving to one side of the stem*** (b).

SPOROPHYTE — seta red, smooth, ***twisted when dry*** (c); capsule brown, usually curved, inclined, smooth, often contracted below mouth when dry; operculum conic (d).

HABITAT — most species in wet sites, often in swamps, bogs, streams, and lakes, sometimes floating; one species occurs on rotten logs, on forest floors, at the bases of living trees, in tundra, on cliffs, and on boulders.

Bryophytes

Mosses



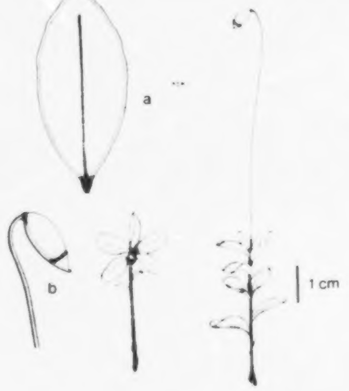
Hylocomium splendens

(Stairstep moss)

GAMETOPHYTE — dull yellow to brownish-green, glossy, creeping, with current year's growth arising arched from middle of previous year's growth (a) producing a ***"step-like" appearance;*** branches also secondarily branched; stem red, often hairy; branch leaves decreasing in size towards end of branch; stem leaves with ovate twisted tip (b).

SPOROPHYTE — uncommon; seta red, smooth, not twisted when dry; capsule inclined, oval, brown; operculum conic (c); peristome teeth brown, incurved when dry, double.

HABITAT — in coniferous forest throughout the province; sometimes in tundra, on the forest floor, and decaying wood. Dominant in the Skeena area. Infrequent only at high elevations.



Mnium glabrescens

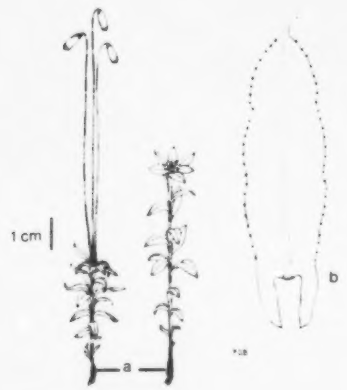
GAMETOPHYTE — scattered or in tufts, plants green with reddish brown stems to 3 cm, not usually branched, with brown rhizoids at the base, erect stems usually naked; leaves (a) spreading to slightly contorted when dry 4-6 mm long, 2-3 mm wide, rounded at the apex; male and female plants separate.

SPOROPHYTE — seta red-brown, 2-4 cm long; capsule (b) nodding, elliptic; operculum a high cone with greenish yellow peristome teeth.

HABITAT — on rotten logs, humus or soil over rock, a widespread coastal species. When on the ground indicates subhygric to hygric richer sites, when on rotten wood indicates mesic to wetter conditions.

Bryophytes

Mosses

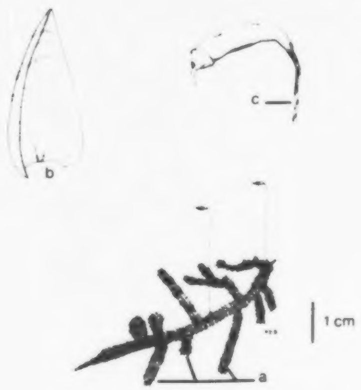


Mnium insigne

GAMETOPHYTE — scattered in tufts, or in mats, fertile stems erect, 3-8 cm high, matted with rhizoids below (a), sterile shoots more or less horizontal to 10 cm long, leaves spreading when moist, recurved and contorted when dry, oblong to elliptic (b) with an abrupt point. Male and female plants different.

SPOROPHYTE — usually 3-6 per plant, seta yellow on top, reddish brown below, 2-4 cm long; capsule yellow-brown, cylindric, peristome teeth greenish-yellow.

HABITAT — in shaded, humid sites, abundant in swampy areas and near water bodies. Widespread in coastal areas, although occurring inland. A good indicator of rich, hygric sites.



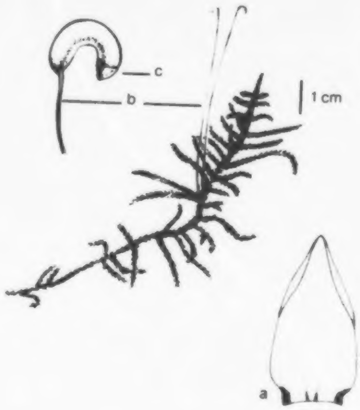
Plagiothecium undulatum

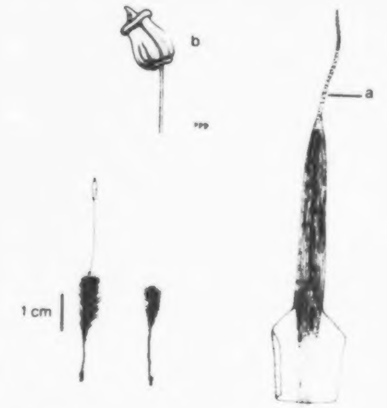
GAMETOPHYTE — forming creeping mats of flattish stems, pale whitish-green, somewhat glossy, irregularly branched (a); ***leaves*** (b) ***overlapping, undulate (wavy),*** oval, pointed, entire.

SPOROPHYTE — lateral, arising vertically from main stem; seta (c) smooth, glossy, reddish, twisted when dry; capsule inclined, dark brown, regularly grooved when dry, occasionally contracted below mouth when dry; operculum conic; peristome teeth double, pale brown to yellowish with outer teeth flaring out when dry.

HABITAT — generally in humid coniferous forest; on logs or forest floor and sometimes on rocks. Found only in mild coastal (CWHf and CCPH) portions of the Skeena area.

Bryophytes
Mosses





Pleurozium schreberi

GAMETOPHYTE — forming thick mats of creeping to sub-erect, regularly pinnately branched plants, ***glossy yellow to dull green; stems red-brown;*** leaves oval (a), ***branch tips distinctly pointed.***

SPOROPHYTE — seta (b) red-brown, smooth , somewhat glossy, twisted to some extent when dry; capsule cylindrical, horizontal and often curved; operculum (c) conic, peristome double, red-brown.

HABITAT — on the forest floor, decaying wood. A very common moss on all forested sites in all subzones of the Skeena area. May form pure carpets in the driest pine (hemlock) ecosystem associations.

Polytrichum piliferum

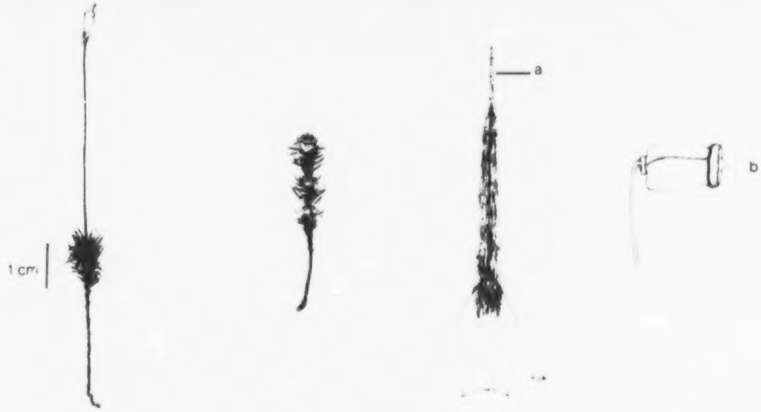
GAMETOPHYTE — dark green to bluish-green to red-brown, somewhat glossy, unbranched, wiry, erect stems forming dense tufts; leaves overlapping to spreading, ***needle-like, tipped with a conspicuous white hair*** (a); stems red brown but concealed by close-lying leaves; plant 0.5-3 cm tall; rhizoids confined to stem base; male and female plants separate.

SPOROPHYTE — solitary at tip of stem; seta wiry, red-brown, glossy, not twisted when dry; capsule not glossy, pale to deep red-brown, distinctly ***four-angled,*** squarish to rectangular (b), somewhat inclined when mature, contracted to some extent below mouth when dry; operculum conic to snouted; whitish peristome teeth incurved; calyptera hairy, shedding at maturity.

HABITAT — sterile earth or humus, acid, dryish sites, often on thin earth over rock, generally in extremely sunny sites; relatively dry habitats; frequent at all elevations.

Bryophytes

Mosses



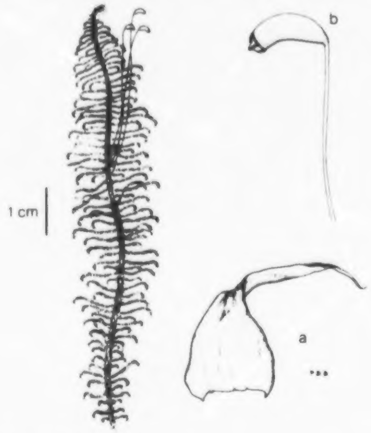
Polytrichum juniperinum

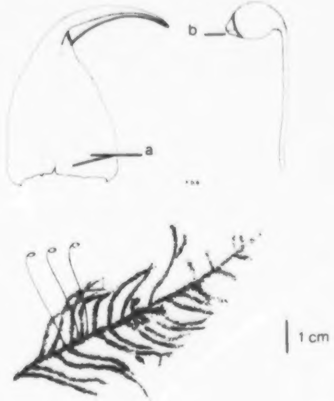
(Hair cap moss)

GAMETOPHYTE — dark green to pale bluish-green to red-brown, not glossy except at leaf bases, forming loose to tight tufts of wiry unbranched stems; ***leaves needle-like,*** spreading when moist, tightly overlapping when dry, ***tipped with reddish-brown stiff hair*** (a); stems red-brown obscured by leaf bases except at base of stem; plants 2-10 cm tall; rhizoids confined to lower part of stem; male and female plants separate.

SPOROPHYTE — solitary at the tips of main stems; seta wiry, red-brown, glossy, not twisted when dry; capsule rectangular to squarish (b), with ***4 conspicuous angles,*** erect when young but inclined with age, light red-brown, only slightly contracted below mouth when dry; operculum with conspicuous snout; calyptera hairy, shed at maturity.

HABITAT — on sterile earth or humus, usually acid, generally on dryish or well drained sunny sites, sometimes in bogs, often on thin earth over rock; occurring in coniferous forests at all elevations, up to subalpine and alpine; common throughout the province. Not occurring regularly in the forest except on dry sites, common on clearcuts, other disturbed sites and on upturned roots.





Ptilium crista-castrensis

(Knight's plume)

GAMETOPHYTE — pale green to yellowish to golden yellow; regularly pinnately branched, ***"feather-like" appearance,*** near-erect to reclining often forming soft mats; stems yellowish to pale green; stem leaves are oval, tapering gradually to a sharp point, sickle-shaped (a), pleated and mostly oriented to one side of the stem.

SPOROPHYTE — lateral, well behind apex of shoot, usually more than one on each shoot; seta red, slightly glossy, twisted when dry; capsule red-brown, strongly curved when mature (b), contracted below mouth when mature; operculum conic; peristome double, outer teeth dark red-brown, inner colorless.

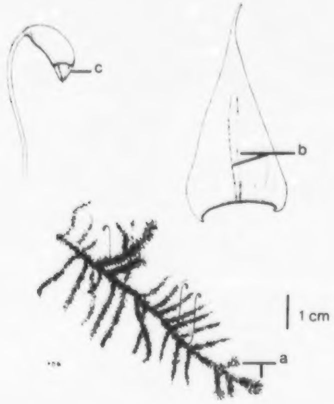
HABITAT — most frequently on forest floor and on rotting wood in coniferous forests. Rare in coastal zones, a dominant in the interior ICHg and SBSd subzones of the Skeena area. Sporadic in the CWHf where it occurs frequently only in dry ecosystem associations.

Rhytidiadelphus loreus

GAMETOPHYTE — light green to yellowish-green, forming dense interwoven glossy mats of creeping plants, branching irregularly to regularly pinnate; branches sharp-pointed to blunted; ***stem red-brown;*** stem leaves 4 mm long, triangular, strongly pleated (a) toward base, the tip usually not noticeably recurved, branch leaves oval, pleated at base; leaves angle outward from stem and in some cases are perpendicular to it; plants have ***a "pipecleaner" appearance.***

SPOROPHYTE — several per shoot, far back from the tip of the main shoot, perpendicular to main shoot; seta red-brown, twisted when dry, glossy; capsule red-brown, oval to nearly spherical, inclined; operculum (b) conic; peristome double, outer teeth red-brown.

HABITAT — on forest floor, over humus, and on rotten logs, occasionally on cliff shelves and boulders. Characteristic of the CCPH dominant moss in the CWHf, much less frequent towards the interior.



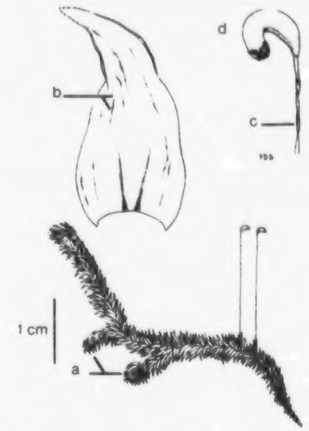
Rhytidiadelphus triquetrus

(Shaggy moss)

GAMETOPHYTE — forming thick pale green to yellow-green carpets of creeping irregularly to regularly branched shoots; tips of the main shoots blunt, with a ***tuft of divergent leaves*** (a) resembling a dog's paw; stems ***red-brown;*** leaves triangular, ***6 mm long,*** shallowly pleated wet or dry; costa (b) double.

SPOROPHYTE — seta glossy, somewhat corkscrew twisted when dry; capsule inclined, curved and not glossy; operculum (c) conic; peristome double, outer teeth red-brown.

HABITAT — frequent in both shaded and somewhat sunny sites, in both deciduous and coniferous forests, in dry to humid localities, on boulders, logs, among grasses and on the forest floor; province-wide, particularly common in the ICHg.



Rhytidiopsis robusta

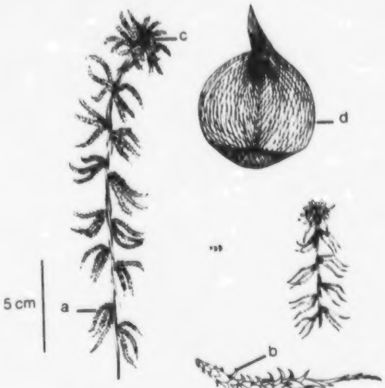
GAMETOPHYTE — irregularly, ***sparsely branched,*** creeping stems sometimes forming extensive mats, ***golden to yellow-green; tips of branches hooked*** (a) with branches having the appearance of a furred paw; leaves with deep irregular pleats and wrinkles (b), oval, tapering to a sharp or blunt often serrated tip; stems green to yellowish.

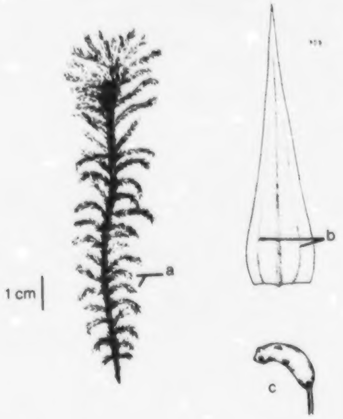
SPOROPHYTE — located far back from stem tip and perpendicular to it; seta (c) light to dark red-brown, glossy, twisted when dry, capsule (d) strongly curved and inclined; operculum conic; peristome double, teeth pale yellow.

HABITAT — on forest floor, found at low elevations in the CWHf and ICHg, but only dominant at higher (montane and subalpine) elevations.

Bryophytes

Mosses





Sphagnum spp.

(Peat moss)

GAMETOPHYTE — mostly erect, forming loose to tight mats and tufts; lateral branches many, in conspicuous clusters of 2-5 (a) along the main stem and recurved (b); terminal branches crowded into a tight head (c); branch leaf cells (d) appearing as a conspicuous network when observed with a hand-lens; pale whitish green to brilliant red in colour.

SPOROPHYTE — capsules somewhat spherical.

HABITAT — from shady, swampy and alluvial sites to open bogs, mostly in wet conditions; often forming the dominant ground cover; *Sphagnum* spp. occur from sea level to subalpine elevations.

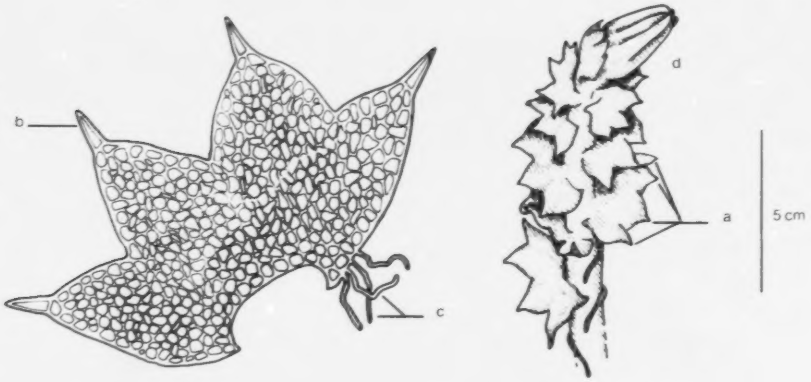
Tomenthypnum nitens

GAMETOPHYTE — suberect, interwoven, regularly ***pinnately-branched shoots***, forming loose dense mats, ***light green to yellow-green and golden;*** branches often curved downwards (a), emerging perpendicular to main stem; leaves narrowly triangular with strong pleats parallel to leaf margins (b), costa forming ridge on back of leaves on which ***red-brown rhizoids*** are largely confined.

SPOROPHYTE — borne on main stem and far back from the apex of the main shoot; seta red-brown, glossy, twisted to some extent when dry; capsule cylindric (c), somewhat glossy, contracted below mouth to some extent when mature; operculum conic; peristome double, outer teeth light brown, inner colourless.

HABITAT — swamps and fens; widespread and often abundant in the northern half of the province.

Bryophytes
Liverworts *(Leafy)*



Barbilophozia lycopodioides

LIVERWORT, male and female reproductive parts on different plants; in loose depressed pale green or yellow-green, (seldom brownish) tufts.

STEMS — up to 5 cm long, green above, brownish underneath, prostrate or ascending, sparingly branched.

RHIZOIDS — forming a dense ventral mat, colourless.

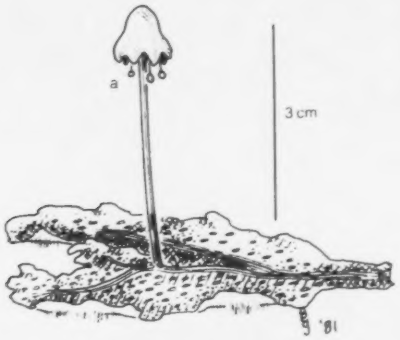
LEAVES — ***strongly overlapping,*** laterally spreading, very slanted where inserted, prominently wavy, curled and twisted, shallowly divided into 3 very blunt sinuses and 4 convex-sided lobes (a); lobes broadly triangular abruptly narrowing to a stiff, sharp, slender point (b); dorsal side of leaf base ***usually with long, slender cilia*** (c).

UNDERLEAVES — large, usually deeply divided by two lobes fringed with long cilia.

INVOLUCRAL BRACTS — erect, resembling the leaves but more pleated; lobes frequently ending in long cilia; upper and lower margins of the bract with cilia at base, bracteole deeply divided into 2-4 lobes ending in long cilia.

PERIANTH — (d) large, oblong, inflated, pleated at apex; mouth with spreading pointed teeth and cilia.

HABITAT — on the forest floor, very common in subalpine ESSF and MH stands and in small patches in the ICHg.



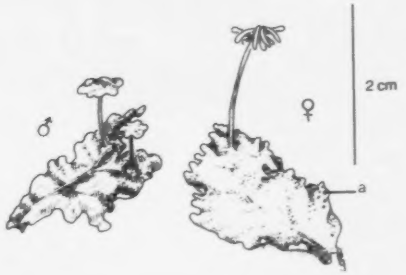
Conocephalum conicum

LIVERWORT, flat, scale-like plant without distinct stem or leaves, varying size, the largest of the thalloid liverworts; ***emits an aromatic odour when bruised.***

GAMETOPHYTE — surface covered with polygonal markings, air pores visible without a lens, on a low mound of colourless cells, greenish to purplish-green, ***no vegetative propagules in cups or scales along the margins of the dichotomously branched lobes on the thallus.***

SPOROPHYTE — (a) on the underside of a ***stalked, conical umbrella.***

HABITAT — widespread, common on moist earth and rocks, often covering many square feet, coastal (CWHf), common on hygric sites.



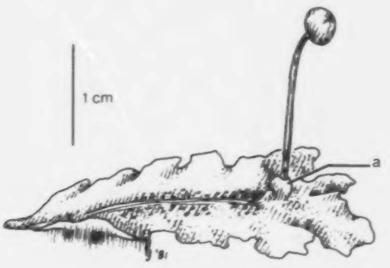
Marchantia polymorpha

LIVERWORT, flat, scale-like plant without distinct stem or leaves, about 5 cm in diameter.

GAMETOPHYTE — surface covered with polygonal markings, air pores (a) visible without a lens, ***covered with half-cups containing vegetative propagules,*** green to purplish-green, ***thin scales along the margins of the thallus***, lobes dichotomously branched; male and female plants separate.

SPOROPHYTE — on the underside of a long ***4 to 9 fingered spreading umbrella*** on a 1 to 3 cm high stalk.

HABITAT — widespread on disturbed clayey or silty soil, especially on burned places, also on exposed mineral soil in wet forest sites.



Pellia neesiana

LIVERWORT, flat, scale-like plant 4 to 16 mm wide, usually crowded in broad patches (10-50 cm).

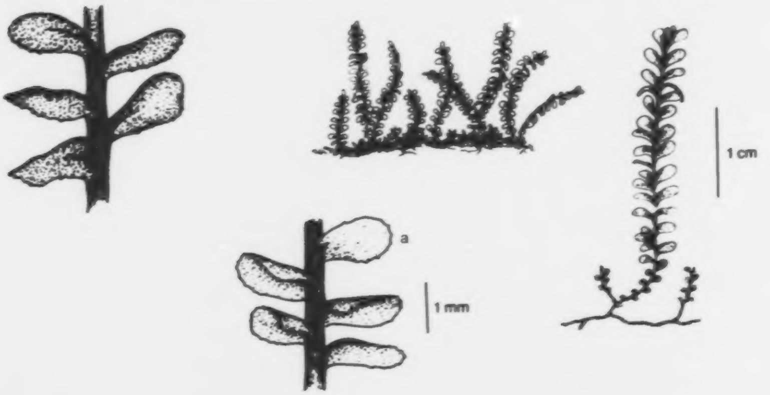
GAMETOPHYTE — thallus with an ill-defined midrib, only a gradually thickened central portion, margins of the plant even or wavy, but not regularly lobed, although, plant may be variously lobed or branched.

SPOROPHYTE — in an oval or globular capsule on a slender ***gelatinus stalk;*** capsule splits into four lobes; basal sheath (a) of sporophyte cylindrical.

HABITAT — on moist, shaded, exposed ground, avoids lime or very basic soils, a coastal species (CWHf), common on hygric sites.

Bryophytes

Liverworts *(Leafy)*



Plagiochila porelloides

LIVERWORT, male and female reproductive parts on different plants; forms dense and nearly erect tufts or extended loose patches, green to dark green in colour.

STEMS — 4-6 cm long, erect or ascending, branched, also with several descending nearly leafless branches, innovating from below the perianth.

RHIZOIDS — colourless, almost absent on the ascending stem.

LEAVES — (a) small and distant below, larger and overlapping or approximate above, spreading at an angle of 45 degrees or less or almost horizontal, frequently much deflexed, ***round-oval-shaped,*** almost the ***whole margin is more or less toothed to ciliate-toothed;*** upper margin strongly reflexed and the base of the leaf running down sides of stem is very long; the lower leaf margin broadly recurved and the base of the leaf extending along the stem is short.

UNDERLEAVES — small, awl-like, or divided in 2 or absent.

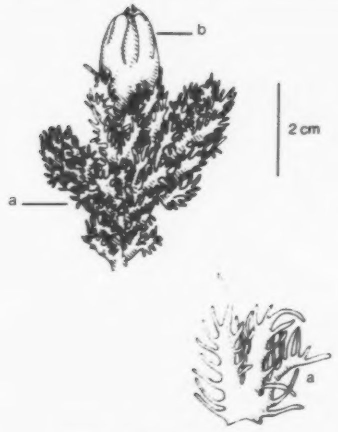
INVOLUCRAL BRACTS — rather larger than leaves, irregularly spiny-toothed.

PERIANTH — protruding, conical-oblong, the mouth abruptly cut, irregularly toothed-ciliate.

HABITAT — occurs in small patches on the forest floor and on exposed rocks in shaded, humid forest, very common in the CWHf.

Bryophytes

Liverworts *(Leafy)*



Ptilidium pulcherrimum

LIVERWORT, has male and female reproductive parts on different plants, forms low, dense, trailing patches or shallow mats.

STEMS — prostrate with ascending tips, leaves in two rows near the upper side of the stem, midrib absent.

RHIZOIDS — absent.

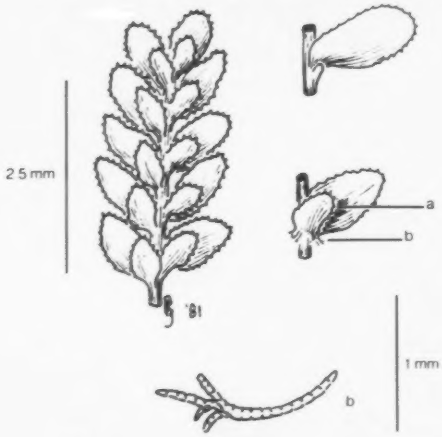
LEAVES — (a) loosely overlapping, ***small with ciliate margins,*** green to reddish to purplish-brown, ***densely leafy, bilobed, strongly concave.***

UNDERLEAVES — deeply bilobed.

INVOLUCRAL BRACTS — smaller than normal leaves, sheathing at the base.

PERIANTH — large, inflated, cylindrical - pear-shaped, weakly folded (b).

HABITAT — a common epiphyte of the bases of trees, occasionally on rock, rarely on soil.



Scapania bolanderi

LIVERWORT, male and female reproductive parts on the same plant, stems to 8 cm long in mats.

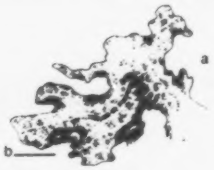
GAMETOPHYTE — leaves in two rows near the upper side of the stem, ***two lobed, under lobe larger than upper*** (a), the basal margin of the smaller (upper) lobe with long, branched cilia (b), leaf margins toothed, larger lobe rounded ovate, leaves to 1.0 mm in diameter.

SPOROPHYTE — short-lived, leaves surrounding sporophyte with a wide, flattened mouth.

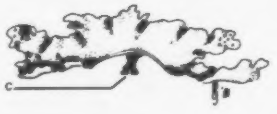
HABITAT — mostly on logs or stumps in coastal areas.

Lichens

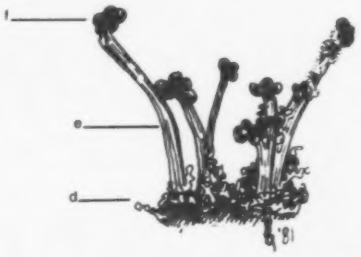
Lichens are made up of an algal and fungal component. The fungi and algae are organized to form a lichen plant body or thallus with a definite growth form. Three major growth forms may be recognized as follows:



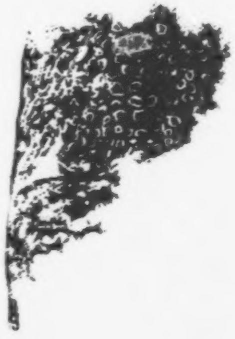
FOLIOSE — the typical foliose form is lobed and leaf-like (a) with a distinct upper and lower surface, and attached to the substratum by rhizines (b) (*Lobaria* spp.). The less common umbilicate form is circular in outline and attached to the substratum by a single central cord (c) (*Umbilicaria* spp.)



FRUTICOSE — thallus of simple or divided branches, hairlike, shrubby or strap-shaped; rhizines lacking; center may be hollow (*Cladonia* spp.); or with a dense central cord (*Usnea* spp.). The genus *Cladonia* is the most widespread representative of the fruticose lichens and specialized terminology has evolved around this genera. The primary thallus is made up of scale-like squamules (d) crowded into mats. The simple or branched structures borne on the squamules are called podetia (**e**) and are frequently tipped with red or brown apothecia (**f**).

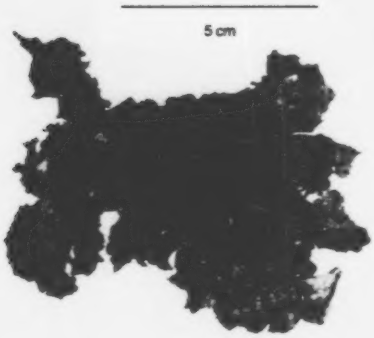


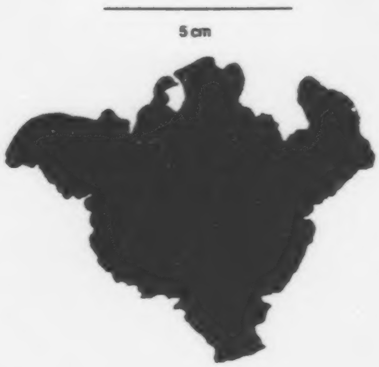
CRUSTOSE — usually in intimate contact with the substrate (rocks, trees, bark) and cannot be separated from it without destroying the thallus.



Lichens

Foliose





Lobaria spp.

(Lungworts)

LICHEN with flat, lobed thalli, lower surface uniformly tan, mottled brown or white, upper surface wrinkled and ridged looking something like vertebrate lung tissue; 5-25 cm broad, often ***turning bright green when wet.***

HABITAT — usually found on the upper branches of older trees, occasionally on rocks, common in cottonwood sites.

NOTE — *Lobaria pulmonaria* was frequently used in the middle ages for treating lung diseases, because it so closely resembled lung tissue.

Peltigera spp.

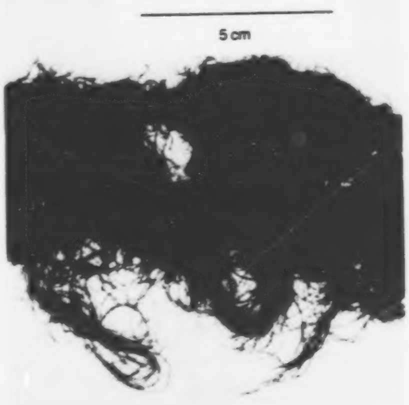
(Dog lichens)

LICHEN with flat, lobed thalli, lower surface veins and rhizines, upper surface variable, 1-20 cm across, light to dark brown or greenish-brown; location and anatomy of fruiting bodies variable.

HABITAT — found commonly on soil, humus, or mosses in mesic to dry ecosystems associations.

Lichens

Fruticose



Alectoria spp.

LICHEN composed of a tangle of dichotomous branches with solid centres, but ***no central core***, usually pendulous, ***variable colour from black to greenish grey***, surface smooth or rough.

HABITAT — a common lichen on conifer branches.

Cladina spp.

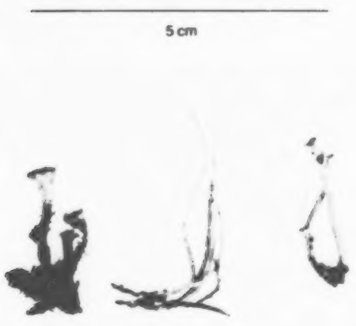
(Reindeer mosses)

LICHEN, ***squamules*** (small scale-like thalli which lack a smooth lower surface and rhizoid - like projections) ***are absent;*** main body of this group of lichens ***composed of many fine hollow, upright branched structures known as podetia***, often form low circular colonies composed of hundreds of finely branched podetia.

HABITAT — widespread indicators of dry ecosystem associations.

Lichens

Fruticose

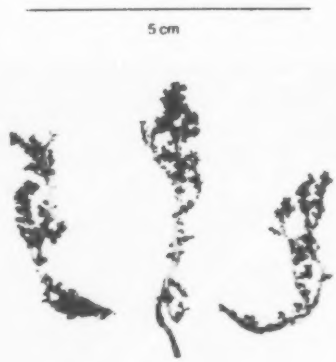


Cladonia spp.

(Cup or club lichens)

LICHEN, ***squamules often present***, main body of this group of lichens composed of fine to coarse hollow, upright podetia which vary from ***hollow clubs to colourful cups at the tip of single to many branched podetia.***

HABITAT — widespread indicators of dry ecosystem association.



Stereocaulon spp.

LICHEN, a shrubby lichen whose branches originate from thalli, squamules lacking, surface is dull and covered with numerous lobes of the thalli, branches are round with a ***solid centre, thallus whitish to gray never brown, black, yellow or orange.*** Species identification difficult.

HABITAT — forms small colonies on rocks or soil. Widespread indicators of dry ecosystem associations.

Appendix I

Collecting and Pressing Plant Specimens

Much of the information in this section, including the illustrations, has been taken from: Brayshaw, T.C. 1973. Plant Collecting for the Amateur, Museum Methods Manual I, Queens Printer, Victoria.

Materials:

— polyethylene (plastic) bags; several of the large freezer size and one or two 2' x 3' size.

— newspaper - an abundant supply.

— plant press: consisting of two wooden backs, two straps or a length of cord and several sheets of corrugated cardboard separators.

Collecting:

Plant specimens should be collected and kept in plastic bags until ready for pressing. This will aid in keeping specimens fresh. In dry weather a small amount of water or damp moss can be included with the specimens to keep them from drying out. A sheet of paper with the collection number should be included in each specimen bag.

Plant collecting is best done in dry weather. Plants collected in wet weather have a relatively higher content of water and will take proportionally longer to dry in the press. Also, if not handled properly the specimens could become mouldy and discoloured. ***Generally the faster the drying the better the plant is preserved.***

A plant specimen should include all those plant parts which are necessary for its proper identification. Herbaceous plants should include at least part of the stem, leaves, fruit, flowers and, if possible, part of the root system. ***Special care should be taken to collect a specimen which best represents as many of the plant features as possible.*** Grasses, sedges, and rushes require that at least part of the root system be included. In collecting mosses attention should be given to collecting specimens with both gametophyte and sporophyte if present, and similarly in collecting lichens both the vegetative part and fruiting body should be included. Tree and shrub specimens should include twigs, leaves, flowers or catkins as well as a description of the whole plant. When collecting all but the larger plants, care should be taken to keep the plant intact. This will avoid getting parts of one plant confused or mixed with another.

With each specimen the following data should be collected:

— collection number

— collector's name

— location and plot number

— date of collection

— habitat information: vegetation type where plant occurs, slope, aspect, elevation, drainage and moisture. For bryophytes and lichens it is important to indicate what substrate the species is growing on (e.g. rock, humus, soil).

— a description of those plant features which may change during pressing; flower color is a good example.

Pressing:

Each specimen is placed in a folded sheet of newspaper and arranged to fit on an 11" x 16" sheet of paper (the size commonly used in mounting specimens in most herbaria). Large specimens may have to be folded or cut in order to accommodate them in the press. Data collected with the specimen may be written along the margin of the newspaper or in a field book in conjunction with a number corresponding to each specimen. Also to avoid confusion no more than one species (one type of plant) should be pressed in a folder, although several specimens of the same species from the same location can be pressed in the same paper folder.

The press is made up as follows: on one of the wooden backs a cardboard separator is placed, then a specimen in its newspaper folder, then another cardboard separator, then another specimen and so on until all the material to be pressed is included (Fig. 1). A second wooden

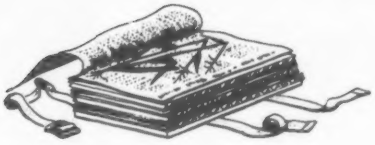


FIGURE 1

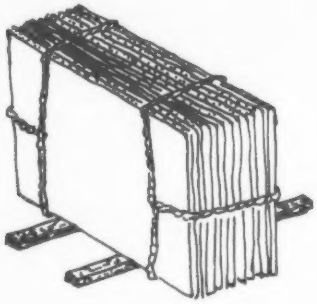


FIGURE 2

back is then placed on top and the whole bundle is bound together with either a pair of straps or a length of cord. ***The press should be opened and inspected daily and the dried specimens removed.*** During the inspection of the press material, if it is noted that any of the folders are damp or wet they should be replaced with dry newspaper; data, such as collection number, should be transferred onto the new newspaper sheet.

In good weather the press can be placed in a sunny and draughty location during the day and brought indoors in the evening. During periods of poor weather the press can be placed near a stove or heater with care that the press does not receive so much heat that both it and the specimens become scorched. It is important that air flow freely around the press and through the corrugations in the cardboard. This is best achieved by placing the press on its long edge and raising it off the ground (Fig. 2).

Moss and lichen specimens are not pressed but are collected in small paper bags. The collection data is recorded on the outside of the bag or in a field book.

Storing:

Dried specimens in their newspaper folders should be kept in a cardboard box (preferably one with a lid to keep out dust and rodents) and stored in a cool dry place.

Glossary

ACHENE — the most generalized type of dry, indehiscent fruit.

ADNATE — refers to the fusion of unlike parts.

ALTERNATE — any arrangement of leaves or parts not opposite or whorled, i.e., leaves borne singly, one at a node (see page 197).

ANNUAL — a plant which germinates, flowers, and seeds in a single season.

ANTHER — the part of the stamen which bears the pollen. (see page 198).

APEX — the tip of an organ, or plant.

APICAL — at the tip or top of an organ or plant.

APOPHYSIS — the swollen basal portion of a sporophyte capsule of a moss (see page 170).

APPRESSED — lying close and flat against a surface.

ASCENDING — arched obliquely upward, or upcurved.

AXIL — the angle formed by the axis or main stem and leaf.

AXILLARY — located in or arising from an axil. (see page 198).

BASAL — situated at, or pertaining to, the base.

BEAK — a prolonged, slender tip on a thicker organ such as a fruit or seed.

BERRY — a fleshy fruit with more than one seed and formed from an ovary.

BLADE — the expanded part of a leaf or petal (see page 197).

BLOOM — a glaucous powdery covering or deposit on fruits and on certain leaves.

BRACT — a specialized reduced leaf from the axil of which a flower arises; any reduced or modified leaf associated with an inflorescence.

BRACTEATE — having bracts.

BRISTLE — a stiff hair.

BULB — an underground bud covered by fleshy scales, the coating formed from the bases of leaves.

CALYPTRA — the cap-like covering of the sporophyte capsule of a moss.

CALYX — all the sepals of a flower, collectively (see page 198).

CAPSULE — a dry, dehiscent fruit composed of more than one carpel or the spore-bearing portion of a moss sporophyte.

CAULINE — of or belonging to the stem.

CILIATE — fringed with marginal hairs.

CLASPING — partly or wholly surrounding the stem.

CLEFT — indented about half way or a little deeper to the midrib or base, deeply lobed.

COLUMELLA — the stalk holding the cap-like operculum on the top of a moss sporophyte capsule (see page 170).

COMPOUND LEAF — one with two or more leaflets (see page 196).

CONCAVE — shallowly hollowed; saucer-like.

CONIC — cone-shaped.

CORDATE — heart-shaped (see page 196).

CORM — a short, vertical, underground stem that is thickened as a perennating storage organ.

COROLLA — all the petals of a flower, collectively.

COSTA — the midrib of a moss leaf (see page 170).

CRISPED — irregularly curled or hooked; referring to leaves which, when dry, become very twisted and contorted.

CULM — the aerial stem of a grass or sedge.

CYME — a flower cluster where the terminal or central flower blooms earliest, the others following.

DECIDUOUS — falling at the end of one seasons growth; falling at maturity.

DECLINED — curved or bent downward.

DECURRENT — extending down and adnate to the stem.

DEHISCENT — opening at maturity; opening spontaneously when ripe along regular lines of suture.

DEPRESSED — more or less flattened from above; pressed down.

DICHOTOMOUS — branching by constantly forking in pairs.

DILATED — expanded or flattened.

DISCOID — resembling a disk; in the composites, with the flowers of a head all tubular and perfect or functionally staminate (see page 108).

DISK — in the composites, the central part of the head, composed of tubular flowers (see page 108).

DISSECTED — deeply and often repeatedly divided into many smaller or more slender parts.

DIVERGENT — spreading very broadly.

DORSIVENTRAL — with distinct upper and lower surfaces; flattened with the two flattened sides unlike.

DRUPE — fleshy one-seeded indehiscent fruit, with the seed enclosed in a hard pit or stone.

DRUPELET — one drupe in a fruit made of aggregate drupes, as in the raspberry.

ELLIPTIC — oval in outline, narrowed to the rounded ends and widest at or about the middle (see page 196).

ENTIRE — not toothed or otherwise cut (see page 196).

EXSERTED — stretched forth or out; thrust out from a sheath, projecting beyond the surrounding parts.

FLESHY — thick and juicy.

FLEXUOUS — bent in a zigzag or wavy manner.

FLORET — a small flower especially one in a dense cluster.

FOLIOLATE — a suffix indicating the numbers of leaflets present.

FOLLICLE — dry fruit from a single carpel that dehisces along one side only.

FROND — a leaf, especially of a fern.

GAMETOPHYTE — the sexually reproducing portion or generation of a plant; in mosses and liverworts, the conspicuous main body of the plant.

GEMMA — bud that develops into a new plant.

GLABROUS — smooth, without hairs or glands.

GLAND — a spot on the surface of an organ or at the end of a hair which produces a sticky or greasy substance.

GLANDULAR — having glands.

GLOBOSE — globe shaped.

GLAUCOUS — covered with whitish or bluish waxy covering.

GLUME — the pair of outer bracts at the base of a spikelet.

HEAD — an inflorescence of sessile or subsessile flowers crowded closely together at the tip of a peduncle.

HERB — a plant, either annual, biennial, or perennial with the stems dying back to the ground at the end of the growing season.

HERBACEOUS — pertaining to a herb; leaflike in texture and colour; or not woody.

IMPERFECT — a flower lacking either stamens or pistils.

INCISED — rather deeply and sharply (and often irregularly) cut.

INCLINED — leaning over (referring to moss capsule orientation), the capsule oriented at an obtuse or right angle to the seta.

INDEHISCENT — not dehiscent, remaining closed at maturity.

INDUSIUM (Indusia - Collective Term) — an outgrowth covering and protecting a sorus (see page 70).

INFLORESCENCE — a flower cluster of a plant, or the arrangement of the flowers on the axis (see page 198).

INFRASTIPULAR — below the stipules; in the case of *Rosa nutkana*, a pair of thorns at the base of the axils of main branches (see page 47).

INSECTIVOROUS — utilizes insects for food.

INTERNODE — the part of a stem between two adjacent nodes.

INVOLUCRE — a set of bracts beneath an inflorescence (see page 108).

IRREGULAR FLOWER — one in which the petals (less often the sepals) are dissimilar in form or orientation.

LANCEOLATE — lance-shaped (see page 196).

LEAFLET — one of the divisions of a compound leaf (see page 196).

LEGUME — the one-celled fruit of a leguminous plant, dehiscent along both sutures.

LEMMA — the inner bract of a spikelet, one surrounding each individual flower in a spikelet.

LIGULATE — tongue-shaped; provided with or resembling a ligule.

LIGULE — the strap-shaped part of a ray corolla in the Asteraceae; in grasses, the thin "tongue" appendage on the inside of a leaf where the sheath and blade join.

LIP — a modified petal in the orchid flower, usully differing markedly in size, colouration, and form from the other two petals (see page 95).

LOBE — a projecting segment of an organ (see page 196).

MARGINAL — at the edge of the leaf blade.

NECTARIFEROUS — nectar-bearing.

NERVE — a simple or unbranched vein (fibre) or slender rib.

NODE — a place on the stem where a leaf is (or has been) attached.

NUT — a hard, dry, indehiscent, generally 1-seeded fruit.

NUTLET — a small nut.

OBLANCEOLATE — lanceolate, with the broadest part toward the apex.

OBLONG — longer than broad, with the sides nearly parallel or somewhat curving and the ends obtuse, (see page 196).

OBOVATE — the reverse of ovate, the terminal half broader than the basal.

OBTUSE — blunt, rounded.

OPERCULUM — a little lid; the decidous cap of a dehiscing fruit that has an encircling transverse line, (see page 170).

ORBICULAR — circular in outline.

OVAL — broadly elliptic (see page 196).

OVARY — the part of the pistil that contains the ovules (young seeds) (see page 198).

OVATE — egg-shaped, the broader end downward (see page 196).

PALATABLE — pleasant to the taste, agreeable.

PALATE — a raised part of the lower lip of a corolla, partly or wholly closing the throat.

PALMATE — with three or more lobes or veins or leaflets or branches arising from a common point.

PANICLE — a branching inflorescence, with the younger flowers at the apex or centre.

PAPILLAE — short, rounded, blunt projections.

PAPPUS — the modified calyx crowning the ovary (and achene) of the Asteraceae (see page 108).

PEDICEL — the stalk of a single flower.

PEDUNCLE — the stalk of an inflorescence or pedicel (see page 198).

PEDUNCULATE — borne on a peduncle.

PERENNIAL — a plant that lives more than two years.

PERFECT — referring to a flower that has both functional stamens and pistils.

PERIANTH — the sepals and petals (or tepals) of a flower, collectively (see page 198).

PERICHAETIAL LEAVES — the protective leafy mass surrounding the female reproductive structure in mosses or liverworts (see page 170).

PERIGYNIUM — a special bract or sac which encloses the achene of sedges.

PERISTOME — the apical opening of the moss capsule through which spores are shed, often ringed by peristome teeth (see page 170).

PERSISTENT — remaining attached after the normal function has been completed.

PETAL — one of the divisions of the corolla, generally coloured or white, serving to attract pollinators (see page 198).

PETIOLE — a leaf stalk (see page 197).

PINNAE — the primary divisions of a compound leaf (see page 194).

PINNATE — with two rows of lateral branches or appendages, or parts along an axis, like barbs on a feather (see page 196).

PINNATIFID — a simple leaf cut very deep in pinnate fashion.

PINNIPALMATE — intermediate between pinnate and palmate, as the venation of some leaves in which the first pair of lateral veins are much larger than the others.

PINNULE — a division of pinna (singular form of pinnae); an ultimate leaflet of a leaf which is pinnately two or more times compound.

POD — any kind of dry, dehiscent fruit.

POME — a simple fleshy fruit, like an apple, derived from an inferior ovary.

PROSTRATE — flat on the ground.

PUBESCENT — bearing hairs of any sort.

RACEME — an elongated flower-cluster composed of pedicelled flowers arranged along an axis.

RADIATE — in the Asteraceae, having the marginal flowers of the head ligulate and the central ones tubular (see page 108).

RAY — the ligule or ligulate flowers in the Asteraceae (see page 108).

RECEPTACLE — the portion of the floral axis on which the flower parts are borne; in the Asteraceae, the expanded end of the peduncle to which the flowers of the head are attached (see page 108).

REGULAR — referring to flowers in which the members of each circle of parts (or at least the sepals and petals) are similar in size, shape, and orientation.

RESINOUS — containing or producing a sticky aromatic substance.

RETICULATE — forming a network, as the veins of a leaf.

RETUSE — with a small terminal notch in an otherwise rounded or blunt tip.

RHIZOID — a structure of rootlike form and function, but of simple anatomy.

RHIZOMATOUS — bearing rhizomes.

RHIZOME — a creeping underground stem.

RHOMBIC — a four-sided figure having its opposite sides equal, and its angles not right angles.

ROOTSTOCK — same as a rhizome.

ROSETTE — a cluster of leaves or other organs arranged in a circle or disk, often in basal position.

SAMARA — a dry, indehiscent, winged fruit

SAPROPHYTE — a plant, usually lacking chlorophyll, which lives on dead organic matter.

SCAPE — a flowering stem which bears no leaves or only a small bract.

SCHIZOCARP — dry fruits which break up into two or more one-seeded indehiscent segments.

SEPAL — a member of the outermost set of flower leaves, typically green or greenish and more or less leafy in texture (see page 198).

SERAL — a successional species.

SERRATE — toothed along the margin with sharp, forward-pointing teeth (see page 196).

SERRULATE — finely or minutely serrated, having small serrations.

SESSILE — without a stalk of any kind (see page 197).

SETA — a bristle, or the stalk of a bryophyte sporophyte (see page 170).

SHEATH — lower part of a leaf forming a tube around the stem, usually split down one side.

SIMPLE LEAF — one with the blade all in one piece, not compound (see page 196).

SOLITARY — borne singly.

SPADIX — a spike with small, crowded flowers on a thickened, fleshy axis.

SPATHE — a large bract enclosing a spadix.

SPIKE — a more or less elongate inflorescence of the racemose type, with sessile or subsessile flowers.

SPIKELET — a smaller or secondary spike, the ultimate flower cluster, especially in grasses and sedges.

SPORANGIUM — a structure containing spores (see page 67).

SPOROPHYLL — a sporangium-bearing leaf.

SPOROPHYTE — the spore producing portion or generation of a plant (see page 170).

SPUR — an elongated sac produced from part of the flower.

STAMEN — the pollen producing structure of a flowering plant consisting of an anther and generally a filament (see page 198).

STIGMA — the portion of the pistil which is receptive to pollen (see page 198).

STIPE — the stalk beneath the ovary; the leaf stalk of a fern (see page 66).

STIPULE — an appendage at the base of a petiole or leaf or on each side of its insertion.

STOLON — a branch which grows along the surface of the ground and produces roots.

STOLONIFEROUS — bearing stolons.

STOMATA - breathing pore or aperture in the surface of leaves or green stems.

STYLE — the stalk-like part of pistils, connecting the stigma(s) to the ovary (see page 198).

SUBTEND — to occur directly below and close to, as a bract subtending a flower.

TAPROOT — the primary descending root.

TENDRIL — a slender twining, hold fast structure that is a modified stem or leaf.

TERMINAL — at the tip, apex, or far end (see page 198).

TERNATE — in threes (see page 196).

THALLUS — a plant body that is not differentiated into roots, stems or leaves.

TUBER — a thickened, short, underground branch of the stem, serving in food storage.

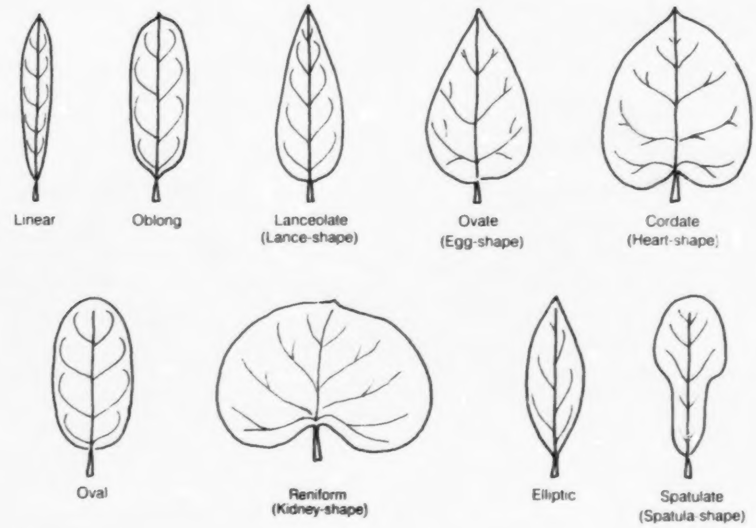
TUBULAR — shaped like a tube.

UMBEL — an inflorescence, more or less flat-topped, in which all of the pedicels arise at the same point, like the ribs of an umbrella.

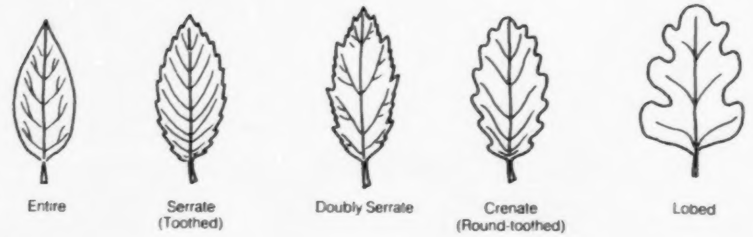
UNDULATE — wavy.

Leaf Terminology

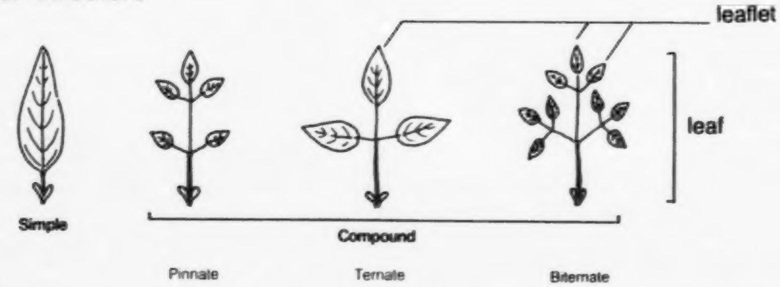
Leaf Shape


Linear
Oblong
Lanceolate
(Lance-shape)
Ovate
(Egg-shape)
Cordate
(Heart-shape)
Oval
Reniform
(Kidney-shape)
Elliptic
Spatulate
(Spatula-shape)

Leaf Margin

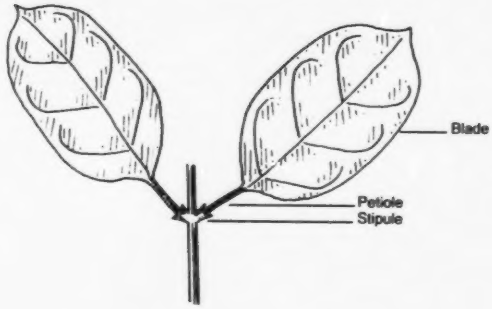

Entire
Serrate
(Toothed)
Doubly Serrate
Crenate
(Round-toothed)
Lobed

Leaf Structure

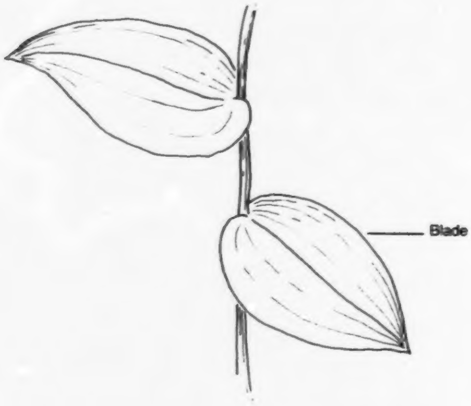

leaflet
leaf
Simple
Compound
Pinnate
Ternate
Biternate

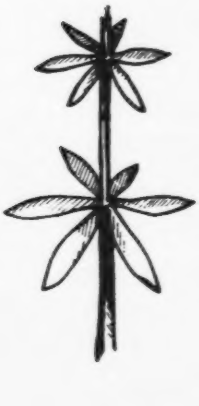
Leaf Terminology

Leaves ***Opposite*** and ***Petiolate*** (with petiole).


Blade
Petiole
Stipule

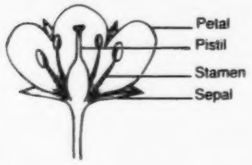
Leaves ***Alternate*** and ***Sessile*** (without petiole).





Leaves ***Whorled*** - 3 or more leaves arranged in a circle around the stem.

Flower Structure

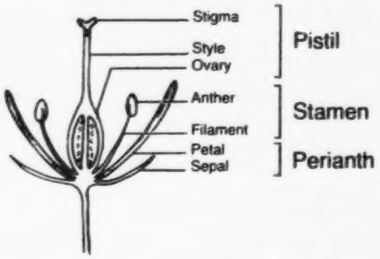

Petal
Pistil
Stamen
Sepal

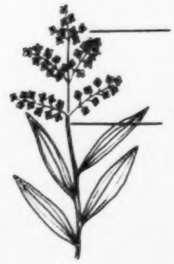
Calyx - collectively all the sepals of a flower

Corolla - collectively all the petals of a flower

Perianth

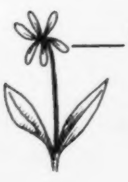
Longitudinal section:


Stigma
Style
Ovary
Pistil
Anther
Filament
Stamen
Petal
Sepal
Perianth

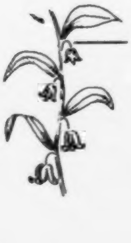


Inflorescence - flower cluster or flowering part of plant.

Peduncle - stalk of single flower or of an inflorescence.



Terminal - borne at end of stem.



Axillary - arising from leaf axil.

Index to Common Names

Alder
  American green
  mountain 22
  red 21
  Sitka mountain 21
Alumroot 22
  meadow
  smooth 154
Anemone, cut-leaf 154
Angelica, white 141
Apple, western crab 117
Arnica 45
  heart-leaved
  mountain 110
Arrow-grass, seaside 111
Arrow-grass family 128
Arum family 128
Aspen, trembling 120
Aster 19
  Douglas'
  Lindley's 112
  showy 111
Aster family 112
Avens 108
  caltha-leaved
  large-leaved 148
Azalea, false 148
Baneberry, red 33
Barley, foxtail 141
Bedstraw 84
  fragrant
  northern 153
  small 152
Betony, Mexican 153
Birch 129
  bog
  common paper 23
Birch family 10
Blackberry, dwarf red 10, 21
Bladderwort family 151
Bluebell, tall 129
Blueberry 121
  Alaskan
  bog 37
  red 40
Bluejoint 39
Borage family 82
Bracken, western 121
Bramble, strawberry 71
Broomrape family 150
134

Buckbean 130
Buckbean family 130
Bugbane, false 146
Bulrush, small-fruited 80
Bunchberry, Canadian 123
Burnet, Sitka 151
Buttercup
    meadow 144
    subalpine 145
    western 145
Buttercup family 141
Butterwort, common 129
Campion, moss 122
Carrot family 117
Cattail 160
Cattail family 160
Cedar
    ground 58
    Western red 11
    yellow 10
Cherry
    bitter 46
    choke 46
    pin 46
Chickweed, field 122
Cinquefoil, marsh 149
Cleavers 153
Cloudberry 150
Club-moss
    Alaska 59
    alpine 57
    bog 56
    mountain 56
    running 58
    stiff 57
Club-moss family 54
Club rush, tufted 81
Colt's-foot
    arrow-leaved 114
    sweet 114
Comandra
    northern 153
Composites 108
Copperbush 31
Coralroot
    spotted 96
    striped 97
    yellow 97
Cottongrass
    many-spiked 79
    Scheuchzer's 80

Cottonwood, black 19
Cow-parsnip, common 118
Cow-wheat, narrow-leaved 159
Crab-apple, western 45
Cranberry
  high bush 25
  mountain 40
  wild 39
Crane's bill, northern 127
Crowberry 28
Crowberry family 28
Currant
  skunk 41
  stink 43
  trailing black 44
  wild red 41
Currant family 41
Cypress family 10, 27
Daisy, oxeye 113
Dandelion
  common 116
  horned 116
Deer-cabbage 130
Devil's club 20
Dogwood, red-osier 26
Dogwood family 26.123
Elder
  Coastal American red 24
  Eastern American red 24
Elderberry, coast red 24
Evening-primrose family 133
Fairybells
  Hooker's 89
  rough-fruited 90
Fairyslipper 96
Falsebox 26
False spikenard 91
Fern
  Braun's holly 70
  deer 66
  lady 66
  male 68
  mountain holly 70
  northern beech 72
  oak 68
  ostrich 69
  rattlesnake 67
  spiny wood 67
  western sword 71
Fescue, western 83

Figwort family 159
Fir
  Pacific silver 12
  subalpine 12
Fireweed 134
Foamflower
  coolwort 158
  trefoil 157
Fringecup, tall 157
Geranium family 127
Ginseng family 20,120
Goatsbeard 147
Goldthread
  fern-leaf 143
  trifoliate 143
Gooseberry
  northern smooth 44
  prickly 43
Gooseberry family 41
Grass
  blue wild rye 83
  brome 81
  rough-leaved rice 84
  wood reed 82
Grass family 74,81
Grass-of-Parnassus, fringed 135
Grass-of-Parnassus family 135
Ground-cedar 58
Ground-cone, northern 134
Ground-pine 59
Groundsel, arrowleaved 115
Hazelnut, beaked 23
Heath family 29
Heather
  club-moss mountain 30
  cream mountain 34
  Merten's mountain 30
  moss 30
  red mountain 34
Hellebore, green false 94
Hemlock
  mountain 18
  water 117
  western 18
Honeysuckle family 24
Horsetail
  common 62
  marsh 63
  meadow 64
  swamp 62
  wood 65

Horsetail family 60
Huckleberry
    big 38
    blue 38
    dwarf 37
    oval-leaved 38
Indian-pipe 131
Indian-pipe family 131
Jacob's-ladder, showy 135
Juniper
    common 27
    Rocky Mountain 27
Kinnikinnick 29
Knight's plume 177
Labrador tea, bog 33
Ladies' tresses 107
Larkspur, pale 144
Laurel, western swamp 32
Lichen
    club 188
    cup 188
    dog 186
Licorice, northern wild 152
Lily
    black 90
    riceroot 90
Lily family 86
Lily-of-the-valley, false 91
Liverwort 170, 180
Lungwort 186
Lupine
    arctic 126
    Nootka 126
Madder family 152
Maple, Douglas 20
Maple family 20
Marshmarigold
    broad-leaf 142
    elkslip 142
Meadowrue, western 146
Mint family 128
Mitrewort
    alpine 156
    Brewer's 155
    stoloniferous 156
Mountain-ash
    cascade 49
    sitka 50
Moss
    broom 172

- Moss
  - haircap 176
  - peat 179
  - reindeer 187
  - shaggy 178
  - stairstep 173
- Moss campion 122
- Nettle
  - Cooley's hedge 128
  - stinging 160
- Nettle family 160
- Nightshade, enchanter's 133
- Oleaster family 28
- Orchid
  - Alaska rein 106
  - Chamisso's rein 104
  - large round-leaved rein 106
  - one-leaved rein 105
  - northern green bog 105
  - slender rein 104
  - tall white bog 104
- Orchid family 95
- Paintbrush, scarlet 159
- Partridgefoot 149
- Pea
  - cream-flowered 125
  - Nuttall's 125
- Pea family 125
- Pearly everlasting 109
- Phlox family 135
- Pine
  - ground 59
  - lodgepole 17
  - shore 17
- Pine family 12
- Pineappleweed 113
- Pinedrops 132
- Pinesap 131
- Pink family 122
- Plantain
  - western rattlesnake 98
  - northern rattlesnake 98
- Pond-lily, yellow 132
- Prince's-pine 138
- Purslane family 136
- Pussytoes, field 110
- Pyrola, common pink 139
- Queen's cup 89
- Raspberry, American red 48
- Reindeer moss 187

- Rose
  - Nootka 47
  - prickly 47
  - Woods' 47
- Rose family 45, 147
- Rosemary, bog 29
- Rush, wood 85
- Rush family 75, 85
- Salal 32
- Salmonberry 49
- Sandalwood family 153
- Sarsaparilla, wild 120
- Saxifrage, false 155
- Saxifrage family 154
- Scheuchzeria 158
- Scheuchzeria family 158
- Scouring rush 63
- Scouring-rush, dwarf 64
- Sedge
  - beaked 78
  - black alpine 78
  - sitka 79
  - soft-leaved 77
  - water 77
- Sedge family 76
- Serviceberry 45
- Silver fir, Pacific 12
- Single delight 138
- Skunk-cabbage, American 120
- Snowberry
  - common 25
  - creeping 31
- Soapberry 28
- Solomon's-seal, star-flowered 92
- Springbeauty, Siberian 136
- Spirea
  - shiny-leaf 50
  - subalpine 51
- Spruce
  - black 16
  - Engelmann 15
  - Roche 15
  - sitka 16
  - white 15
- Stafftree family 26
- Starwort, crisp 123
- Strawberry, blueleaf 147
- Strawberry bramble 150

- Sundew
  - long-leaf 124
  - round-leaved 124
- Sundew family 124
- Sunflower family 108
- Sweet-cicely
  - blunt-fruited 119
  - mountain 118
  - purple 119
- Tansy, common 115
- Thimbleberry 48
- Timothy, common 85
- Twayblade
  - heart-leaved 101
  - northern 100
  - western 100
- Twin-berry, black 24
- Twinflower, northern 121
- Twistedstalk
  - clasping-leaved 92
  - rosy 93
  - small 93
- Vetch, American 127
- Violet
  - Aleutian 164
  - Canada 163
  - Hook 163
  - kidney-leaved 167
  - marsh 166
  - northern bog 165
  - round-leaved 166
  - small white 165
  - stream 164
- Violet family 161
- Water-lily family 132
- Wintergreen
  - green 140
  - lesser 140
  - one-sided 139
- Wintergreen family 137
- Willow
  - arctic 53
  - Bebb's 51
  - glaucous bog 52
  - net-leaved dwarf 53
  - Scouler's 52
  - sitka 53
- Willow family 19 ,51
- Willowherb, alpine 133
- Yarrow 109

Index to Scientific (Latin) Names

The Latin names in italics are the names used throughout the text, while those in regular type are commonly used synonyms for the same species. Nomenclature follows the standards of Taylor and MacBryde (1977) for vascular plants; Crum, Steere and Anderson (1973) for mosses; Stotler and Crandell-Stotler (1977) for liverworts and Hale and Culberson (1970) for lichens.

Abies amabilis (Dougl.) Forbes 12
  A. lasiocarpa (Hook.) Nutt. var. *lasiocarpa* 12
Acer glabrum Torr. var. *douglasii* (Hook.) Dippel 20
Aceraceae 20
Achillea millefolium L. 109
Actaea rubra (Ait.) Willd. 141
Alectoria spp. 187
Alnus crispa (Ait.) Pursh = *A. viridis* (Chaix) DC ssp. *fruticosa* (Rup.) Nyman 22
  A. incana (L.) Moench ssp. *tenuifolia* (Nutt.) Breitung = A. tenuifolia Nutt. 21
  A. rubra Bong. 21
  A. sinuata (Reg.) Rydb. = *A. viridis* (Chaix) DC ssp. *sinuata* (Reg.) Love & Love 22
  A. tenuifolia Nutt. = *A. incana* (L.) Moench ssp. *tenuifolia* (Nutt) Breitung 21
  A. viridis (Chaix) DC. ssp. *fruticosa* (Rup.) Nyman = A. crispa (Ait.) Pursh 22
  A. viridis ssp. *sinuata* (Reg.) Love & Love = A. sinuata (Reg.) Rydb 22
Amelanchier alnifolia Nutt. 45
Anaphalis margaritacea (L.) B & H 109
Andromeda polifolia L. ssp. *polifolia* 29
Anemone multifida Poir. 141
Angelica genuflexa Nutt. 117
Antennaria neglecta Greene 110
Apiaceae (Umbelliferae) 117
Araceae 120
Aralia nudicaulis L. 120
Araliaceae 20,120
Arctostaphylos uva-ursi (L.) Spreng. 29
Arnica cordifolia Hook. 110
  A. latifolia Bong. var. *latifolia* 111
Aruncus dioicus (Walt.) Fern. = A. sylvester Kostel 147
  A. sylvester Kostel = *A. dioicus* (Walt.) Fern. 147
Aster ciliolatus Lindl. 111
  A. conspicuus Lindl. 112
  A. subspicatus Nees var. *subspicatus* 112
Asteraceae (Compositae) 108
Athyrium filix-femina (L.) Roth ssp. *cyclosorum* (Ruprecht) Christensen 66
Aulacomnium palustre (Hedw.) Schwaegr. 171
Barbilophozia lycopodioides (Wallr.) Loeske = Lophozia lycopodioides (Wallr.) Cogn. 180
Betula glandulosa Michx. var. *glandulosa* 23
  B. papyrifera Marsh. 10
Betulaceae 10,21
Blechnum spicant (L.) Roth 66
Boraginaceae 121
Boschniakia rossica (Cham. & Schlecht.) Fedtsch. 134
Botrychium virginianum (L.) Swartz 67
Bromus vulgaris (Hook.) Shear var. *vulgaris* 81
Calamagrostis canadensis (Michx.) Beauv. 82

Caltha biflora DC. = *C. leptosepala* DC. var. *biflora* (DC) Law 142
C. biflora var. rotundifolia (Huth) C.L. Hitchc. = *C. leptosepala* DC. var. *leptosepala* 142
C. leptosepala DC. var. *biflora* (DC.) Lawson = C. biflora DC. 142
C. leptosepala var. *leptosepala* = C. biflora DC. var. rotundifolia (Huth) C.L. Hitchc. 142
Calypso bulbosa (L.) Oakes 96
Caprifoliaceae 24, 121
Carex aquatilis Wahl. 77
C. disperma Dewey 77
C. nigricans C.A. Mey. 78
C. rostrata Stokes 78
C. sitchensis Prescott 79
Caryophyllaceae 122
Cassiope lycopodioides (Pall.) D. Don 30
C. mertensiana (Bong.) G. Don 30
C. stelleriana (Pall.) DC. 30
Castilleja miniata Dougl. *ex* Hook. 159
Celastraceae 26
Cerastium arvense L. 122
Chamaecyparis nootkatensis (D. Don) Spach. 10
Chamomilla suaveolens (Pursh) Rydb. = Matricaria matricarioides (Less.) Porter 113
Chimaphila umbellata (L.) Bart. ssp. *occidentalis* (Rydb.) Hult. 138
Chrysanthemum leucanthemum L. = *Leucanthemum vulgare* Lamarck 113
Cicuta douglasii (DC.) Coult. & Rose 117
Cinna latifolia (Trev. *ex* Gopp.) Griseb. 82
Circaea alpina L. 133
Cladina spp. 187
Cladonia spp. 188
Cladothamnus pyroliflorus Bong. 31
Claytonia sibirica L. = Montia sibirica (L.) Howell 136
Clintonia uniflora (Schult.) Kunth 89
Comandra livida Rich. = *Geocaulon lividum* (Rich.) Fern. 153
Compositae (See ***Asteraceae***) 108
Conocephalum conicum (L.) Lindb. 181
Coptis aspleniifolia Salisb. 143
C. trifolia (L.) Salisb. 143
Corallorhiza maculata Raf. 96
C. striata Lindl. 97
C. trifida Chat. 97
Cornaceae 26, 123
Cornus canadensis L. 123
C. sericea L. = C. stolonifera Michx. 26
C. stolonifera Michx. = *C. sericea* L. 26
Corylus cornuta Marsh. 23
Cupressaceae 10, 27
Cyperaceae 76

Delphinium glaucum Wats. 144
Dicranum fuscescens Turn. 171
D. scoparium Hedw. 172
Disporum hookeri (Torr.) Nichol. var. *oreganum* (Wats.) Jones 89

Disporum trachycarpum (Wats.) Benth. & Hook. 90
Drepanocladus spp. 172
Drosera anglica Huds. 124
  D. rotundifolia L. 124
Droseraceae 124
Dryopteris assimilis Walker = D. austriaca (Jacq.) Woynar *ex* Schinz & Thell. 67
  D. austriaca (Jacq.) Woynar *ex* Schinz &Thell. = *D. assimilis* Walker 67
  D. filix-mas (L.) Schott 68
Elaeagnaceae 28
Elymus glaucus Buckl. 83
Empetraceae 28
Empetrum nigrum L. 28
Epilobium alpinum L. = *E. anagallidifolium* Lamarck 133
  E. anagallidifolium Lamarck = E. alpinum L. 133
  E. angustifolium L. 134
  E. latifolium L. ssp. *latifolium* 133
Equisetaceae 60
Equisetum arvense L. 62
  E. fluviatile L. 62
  E. hyemale L. ssp. *affine* (Engelm.) Calder & Taylor 63
  E. palustre L. 63
  E. pratense Ehrh. 64
  E. scirpoides Michx. 64
  E. sylvaticum L. 65
Ericaceae 29
Eriophorum angustifolium Honck. ssp. *subarcticum* (Vassiliev) Hult. 79
  E. scheuchzeri Hoppe 80
Fabaceae (Leguminosae) 125
Fauria crista-galli (Menzies *ex* Hook.) Makino ssp. *crista-galli*
    = Nephrophyllidium crista-galli (Menzies) Gilg 130
Festuca occidentalis Hook. 83
Fragaria virginiana Duchesne ssp. *virginiana* 147
Fritillaria camschatcensis (L.) Ker-Gawl. ssp. *camschatcensis* 90
Galium aparine L. 153
  G. boreale L. 152
  G. kamtschaticum Steller *ex* Schult. & Schult. 152
  G. trifidum L. 153
  G. triflorum Michx. 153
Gaultheria hispidula (L.) Muhl. 31
  G. shallon Pursh 32
Geocaulon lividum (Rich.) Fern. = Comandra livida Rich. 153
Geraniaceae 127
Geranium erianthum DC. 127
Geum calthifolium Menzies *ex* Smith ssp. *calthifolium* 148
  G. macrophyllum Willd. var. *macrophyllum* 148
Goodyera oblongifolia Raf. 98
  G. repens (L.) R. Br. 98
Grossulariaceae 41
Gymnocarpium dryopteris (L.) Newm. var. *disjunctum* (Rupr.) Ching 68

Habenaria chorisiana Cham. = *Platanthera chorisiana* (Cham.) Reich. 104
H. dilatata (Pursh.) Hook. *Platanthera dilatata* (Pursh) Lind. *ex*. Beck 104
H. hyperborea (l.) R. Br. = *Platanthera hyperborea* (L.) Lind. 105
H. obtusata (Banks) Richards = *Platanthera obtusata* (Banks *ex* Pursh) Lind. 105
H. orbiculata (Pursh) Torr. = *Platanthera orbiculata* (Pursh) Lind. 106

H. saccata Greene = *Platanthera stricta* Lindl. 104
H. unalascensis (Spreng.) Wats. = *Platanthera unalascensis* (Spreng.) Kurtz 106
Heracleum lanatum Michx. = *H. sphondylium* L. ssp. *montanum* (Gaudin) Briq. 118
H. sphondylium L. ssp. *montanum* (Gaudin) Briq. = H. lanatum Michx. 118
Heuchera chlorantha Piper 154
H. glabra Willd. *ex* Roem & Schultes 154
Hordeum jubatum L. 84
Huperzia selago (L.) Bernh. *ex* Schrank & Martius = Lycopodium selago L. 56
Hylocomium splendens (Hedw.) B.S.G. 173
Hypopitys monotropa Crantz 131

Juncaceae 75, 85

Juncaginaceae 128
Juniperus communis L. 27
J. scopulorum Sarg. 27
Kalmia microphylla (Hook.) Heller ssp.
occidentalis (Small) T. & M. = K. polifolia Wang ssp. polifolia. 32
K. polifolia Wang ssp. polifolia =
K. microphylla (Hook.) Heller ssp. *occidentalis* (Small) T. & M. 32

Lamiaceae 128
Lathyrus nevadensis Wats. ssp. *lanceolatus* (Howell) C.L. Hitch. var. *pilosellus*
(Peck) C.L. Hitch. 125
L. ochroleucus Hook. 125
Ledum groenlandicum Oeder 33

Leguminosae (See ***Fabaceae***) 125

Lentibulariaceae 129
Leptarrhena pyrolifolia (D. Don) R. Br. *ex* Seringe 155
Leucanthemum vulgare Lamarck = Chrysanthemum leucanthemum L. 113

Lilaceae 86
Linnaea borealis L. 121
Listera borealis Morong 100
L. caurina Piper 100
L. cordata (L.) R. Br. 101
Lobaria spp. 186
L. pulmonaria (L.) Hoffm. 186
Lonicera involucrata (Rich.) Banks 24
Lophozia lycopodioides (Wallr.) Cogn. = *Barbilophozia lycopodioides* (Wallr.) Loeske 180
Luetkea pectinata (Pursh) Kuntze 149
Lupinus arcticus Wats. 126
L. nootkatensis Donn *ex* Sims 126
Luzula parviflora (Ehrh.) Desv. 85

Lycopodiaceae 54
Lycopodiella inundata (L.) Holub = Lycopodium inundatum L. 56

Lycopodium alpinum L. ... 57
L. annotinum L. ... 57
L. clavatum L. ... 58
L. complanatum L. ... 58
L. inundatum L. = *Lycopodiella inundata* (L.) Holub ... 56
L. obscurum L. ... 59
L. selago L. = *Huperzia selago* (L.) Bern. *ex* Schrank & Martius ... 56
L. sitchense Rupr. var. *sitchense* ... 59
Lysichiton americanum Hulten & St. John = Lysichitum americanum Hulten & St. John ... 120
Lysichitum americanum Hulten & St. John = *Lysichiton americanum* Hulten & St. John ... 120
Maianthemum dilatatum (Wood) Nels. & MacBr. ... 91
Malus fusca (Raf.) Schneider = Pyrus fusca Raf. ... 45
Marchantia polymorpha L. ... 181
Matricaria matricarioides (Less.) Porter = *Chamomilla suaveolens* (Pursh.) Rydb. ... 113
Matteuccia struthiopteris (L.) Todaro var. *pensylvanica* (Willd.) Morton ... 69
Melampyrum lineare Desr. var. *lineare* ... 159
Menyanthaceae ... 130
Menyanthes trifoliata L. ... 130
Menziesia ferruginea Smith ... 33
Mertensia paniculata (Ait.) G. Don ... 121
Mitella breweri Gray ... 155
M. nuda L. ... 156
M. pentandra Hook. ... 156
Mnium glabrescens Kindb. = Rhizomnium glabrescens (Kindb.) Koponen ... 173
M. insigne Mitt. = Plagiomnium insigne (Mitt.) Koponen ... 174
Moneses uniflora (L.) Gray = Pyrola uniflora L. ... 138
Monotropa uniflora L. ... 131
Monotropaceae ... 131
Montia sibirica (L.) Howell = *Claytonia sibirica* L. ... 136
Nephrophyllidium crista-galli (Menzies) Gilg.
= *Fauria crista-galli* (Menzies *ex* Hook.) Makino ssp. *crista-galli* ... 130
Nuphar lutea (L.) Sibthorp. & Smith ssp.
polysepala (Engelm.) Beal = N. polysepala Engelm. ... 132
N. polysepala Engelm. = *N. lutea* (L.) Sibthorp & Smith
ssp. *polysepala* (Engelm.) Beal ... 132
Nymphaeceae ... 132
Onagraceae ... 133
Oplopanax horridus (Smith) Miq. = O. horridum (Smith) Miq. ... 20
Orchidaceae ... 95
Orobanchaceae ... 134
Orthilia secunda (L.) House ssp. *secunda* = Pyrola secunda L. ... 139
Oryzopsis asperifolia Michx. ... 84
Osmorhiza chilensis Hook. & Arn. ... 118
O. depauperata Phil. ... 119
O. purpurea (Coult. & Rose) Suksd. ... 119
Oxycoccos intermedius (Gray) Rydb. = *Vaccinium oxycoccos* L. ... 39
O. palustris Pers. = *Vaccinium oxycoccos* L. ... 39
O. quadripetalus Gilib. = *Vaccinium oxycoccos* L. ... 39
Paxistima myrsinites (Pursh) Raf. = Pachistima myrsinites (Pursh) Raf. ... 26

Parnassia fimbriata Konig var. *fimbriata* 135

Parnassiaceae 135
Paxistima myrsinites (Pursh) Raf. = Pachistima myrsinites (Pursh) Raf. 26
Pellia neesiana (Gott.) Limpr. 182
Peltigera spp. 186
Petasites frigidus (L.) Fries var. palmatus
    (Ait.) Cronq. = *P. palmatus* (Ait.) Gray 114
  P. palmatus (Ait.) Gray = P. frigidus (L.) Fries var. palmatus (Ait.) Cronq. 114
  P. sagittatus (Banks *ex* Pursh) Gray 114
Phleum pratense L. 85
Phyllodoce empetriformis (SM.) D. Don 34
P. glanduliflora (Hook.) Cov. 34
Picea engelmannii Parry *ex* Engelm. 15
  P. glauca (Moench) Voss 15
  P. glauca x P. engelmannii Parry *ex* Engelm. x *P. sitchensis* (Bong) Carr. 15
  P. glauca x P. lutzii Little = *P. glauca x P. sitchensis* 15
  P. glauca x P. sitchensis (Bong.) Carr. = P. glauca x P. lutzii Little 15
  P. mariana (Mill.) B.S.P. 16
  P. sitchensis (Bong.) Carr. 16
Pinguicula vulgaris L. 129
Pinus contorta Dougl. *ex* Loud var. *contorta* 17
  P. contorta var. *latifolia* Engelm. 17
Plagiochila porelloides (Torrey *ex* Nees) Lindenb. 183
Plagiomnium insigne (Mitt.) Koponen = *Mnium insigne* Mitt. 174
Plagiothecium undulatum (Hedw.) B.S.G. 174
Platanthera chorisiana (Cham.) Reich. = Habenaria chorisiana Cham. 104
  P. dilatata (Pursh) Lind. *ex* Beck = Habenaria dilatata (Pursh) Hook. 104
  P. hyperborea (L.) Lind. = Habenaria hyperborea (L.) R. Br. 105
  P. obtusata (Banks *ex* Pursh) Lind. =Habenaria obtusata (Banks) Rich. 105
  P. orbiculata (Pursh) Lind. = Habenaria orbiculata (Pursh) Torr. 106
  P. stricta Lindl. = Habenaria saccata Greene 104
  P. unalascensis (Spreng.) Kurtz. =
    Habenaria unalascensis (Spreng.) Wats. 106
Pleurozium schreberi (Brid.) Mitt. 175

Poaceae 74, 81

Polemoniaceae 135
Polemonium pulcherrimum Hook. 135
Polystichum braunii (Spenner) Fee 70
  P. lonchitis (L.) Roth 70
  P. munitum (Kaulf.) Presl 71
Polytrichum juniperinum Hedw. 176
  P. piliferum Hedw. 175
Populus balsamifera L. spp. *trichocarpa* (T. &
    G. *ex* Hook.) Brayshaw = P. trichocarpa T. & G. 19
  P. tremuloides Michx. 19
  P. trichocarpa T. & G. = *P. balsamifera*
    L. ssp. *trichocarpa* (T. & G. *ex* Hook.)Brayshaw 19

Portulacaceae 136
Potentilla palustris (L.) Scop. 149

Prunus emarginata (Dougl. *ex* Hook.) Walp. ... 46
  P. pensylvanica L. ... 46
  P. virginiana L. ... 46
Pteridium aquilinum (L.) Kuhn ssp. *aquilinum* var. *pubescens* Underwood ... 71
Pterospora andromedea Nutt. ... 132
Ptilidium pulcherrimum (G. Web.) Hampe ... 184
Ptilium crista-castrensis (Hedw.) De Not. ... 177
Pyrola asarifolia Michx. ... 139
  P. chlorantha Sw. = P.virens Schweigg. ... 140
  P. minor L. ... 140
  P. secunda L. = *Orthilia secunda* (L.) House ssp. *secunda* ... 139
  P. uniflora L. = *Moneses uniflora* (L.) A. Gray ... 138
  P. virens Schweigg. = *P. chlorantha* Sw. ... 140
Pyrolaceae ... 137
Pyrus fusca Raf. = *Malus fusca* (Raf.)Schneider ... 45
Ranunculaceae ... 141
Ranunculus acris L. ssp. *acris* ... 144
  R. eschscholtzii Schlecht. ... 145
  R. occidentalis Nutt. ssp. *occidentalis* ... 145
Rhizomnium glabrescens (Kindb.) Koponen = *Mnium glabrescens* Kindb. ... 173
Rhytidiadelphus loreus (Hedw.) Warnst. ... 177
  R. triquetrus (Hedw.) Warnst. ... 178
Rhytidiopsis robusta (Hedw.) Broth. ... 178
Ribes bracteosum Dougl. *ex* Hook. ... 43
  R. glandulosum Grauer ... 41
  R. lacustre (Pers.) Poir. ... 43
  R. laxiflorum Pursh ... 44
  R. oxyacanthoides L. ... 44
  R. triste Pall. ... 41
Rosa acicularis Lindl. ssp. *sayi* (Schw.) Lewis ... 47
  R. nutkana Presl ... 47
  R. woodsii Lindl. ... 47
Rosaceae ... 45, 147
Rubiaceae ... 152
Rubus chamaemorus L. ... 150
  R. idaeus L. ssp. *melanolasius* (Dieck)Focke ... 48
  R. parviflorus Nutt. ssp. *parviflorus* ... 48
  R. pedatus J.E. Smith ... 150
  R. pubescens Raf. ... 151
  R. spectabilis Pursh ... 49
Salicaceae ... 19, 51
Salix arctica Pall. ... 53
  S. bebbiana Sarg. ... 51
  S. pedicellaris Pursh var. hypoglauca Fern. = *S. pedicellaris* Pursh ... 52
  S. pedicellaris Pursh = S. pedicellaris var. hypoglauca Fern. ... 52
  S. reticulata L. ... 53
  S. scouleriana Barratt ... 52
  S. sitchensis Sanson ... 53
Sambucus racemosa L. ssp. *pubens* (Michx.) House var. *arborescens* (T. & G.) Gray
    = S. racemosa var. arborescens (T. & G.) Gray ... 24

S. racemosa ssp. *pubens* var. *leucocarpa*
(T. & G.) Cronq. = S. racemosa var.pubens (Michx.) Koehne 24
S. racemosa var. arborescens (T. & G.) Gray = *S. racemosa* ssp. *pubens*
(Michx.) House var. *arborescens* (T. & G.) A. Gray 24
S. racemosa var. pubens (Michx.) Koehne= *S. racemosa* ssp. *pubens* (Michx.)
House var. *leucocarpa* (T. & G.) Cronq. 24
Sanguisorba canadensis L. ssp. *latifolia*
(Hook.) C. & T. = S. sitchensis C.A. Meyer 151
S. sitchensis C. A. Meyer = *S. canadensis* L. ssp. *latifolia* (Hook.) C. & T. 151

Santalaceae 153

Saxifragaceae 154
Scapania bolanderi Aust. 184
Scheuchzeria palustris L. ssp. *americana* (Fern.) Hult. 158

Scheuchzeriaceae 158
Scirpus cespitosus L. = *Trichophorum cespitosum* (L.) Hartman 81
S. microcarpus Presl 80

Scrophulariaceae 159
Senecio triangularis Hook. 115
Shepherdia canadensis (L.) Nutt. 28
Silene acaulis (L.) Jacq. 122
Smilacina racemosa (L.) Desf. 91
S. stellata (L.) Desf. 92
Sorbus scopulina Greene 49
S. sitchensis Roemer 50
Sphagnum spp. 179
Spiraea betulifolia Pallas ssp. *lucida* (Dougl. *ex* Greene) T. & M. 50
S. douglasii Hook. ssp. *menziesii* (Hook.) C. & T. 51
Spiranthes romanzoffiana Cham. 107
Stachys cooleyae Heller 128
S. mexicana Benth. 129
Stellaria crispa Cham. & Schlecht. 123
Stereocaulon spp. 188
Streptopus amplexifolius (L.) DC. 92
S. roseus Michx. var. *curvipes* (Vail) Fassett 93
S. streptopoides (Ledeb.) Frye & Rigg var.*brevipes* (Baker) Fassett 93
Symphoricarpos albus (L) Blake var. *laevigatus* (Fern.) Blake 25
Tanacetum vulgare L. 115
Taraxacum ceratophorum (Ledeb.) DC. 116
T. officinale Weber 116
Tellima grandiflora (Pursh) Dougl. *ex* Lindl. 157
Thalictrum occidentale Gray 146
Thelypteris phegopteris (L.) Slosson 72
Thuja plicata Donn *ex* D. Don. 11
Tiarella trifoliata L. 157
T. trifoliata var unifoliata (Hook.) Kurtz = *T. unifoliata* Hook. 158
T. unifoliata Hook. = T. trifoliata var. unifoliata (Hook.) Kurtz. 158
Tomenthypnum nitens (Hedw.) Loeske 179
Trautvetteria caroliniensis (Walt.) Vail 146
Trichophorum cespitosum (L.) Hartm. ssp. *cespitosum* = Scirpus cespitosus L. 81

Triglochin maritimum L. 128
Tsuga heterophylla (Raf.) Sarg. 18
  T. mertensiana (Bong.) Carr. 18
Typha latifolia L. 160
Typhaceae 160
Umbelliferae ***(See Apiaceae)*** 117
Urtica dioica L. ssp. *gracilis* (Ait.) Selander 160
Urticaceae 160
Vaccinium alaskaense Howell 37
  V. caespitosum Michx. 37
  V. membranaceum Dougl. *ex* Hook. 38
  V. ovalifolium Smith 38
  V. oxycoccos L. = Oxycoccos intermedius (Gray) Rydb., O. palustris Pers.,O. quadripetalus Gilib. 39
  V. parvifolium Smith 39
  V. uliginosum L. 40
  V. vitis-idaea L. ssp. *minus* (Lodd.) Hult. 40
Veratrum viride Ait. ssp. *eschscholtzii* (Gray) Love & Love 94
Viburnum edule (Michx.) Raf. 25
Vicia americana Muhl. 127
Viola adunca Smith ssp. *adunca* 163
  V. canadensis L. ssp. *rydbergii* (Greene) House 163
  V. glabella Nutt. 164
  V. langsdorfii (Reg.) Fisch. 164
  V. macloskeyi Lloyd 165
  V. nephrophylla Greene 165
  V. orbiculata Geyer *ex* Hook. 166
  V. palustris L. 166
  V. renifolia Gray 167
Violaceae 161

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MR-14